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ABSTRACT

In the 1830s, there was increasing public alarm about the numbers of vessels and lives lost at sea. On a national level, a Select Committee was set up in 1836 to investigate the problem and in its report it made a number of suggestions which, it hoped, would bring about an improvement in the conduct of British merchant vessels. One of these recommendations was the establishment of a system of examinations, which would have resulted in only those who held a certificate of either competency or service being allowed to officer a vessel. Moves to introduce legislation setting up such a system failed due to the lobbying of shipowners and fears that it was wrong for Parliament to meddle in private commerce. It was then left to local initiative to establish examinations, and in the north east ports on the Rivers Tyne, Blyth and Wear, Sunderland and South Shields seem to have taken the first steps in starting a series of examinations. The systems were operated by the local marine insurance associations and they were the predecessors of the national voluntary system established in 1845. However, as so few men came forward to be examined it was decided that if the system was to have any beneficial effect, it would have to be made compulsory, which came about in 1851.

The aim of this research is to investigate what facilities were available for mercantile mariners to gain the knowledge necessary to pass the voluntary examinations and later the compulsory examinations. The hypotheses to be examined were as follows:

the idea that the proprietary schools were run by retired or invalid seamen; that these were replaced by institutionalised schools organised by bodies, such as Trinity House, Newcastle; and whether a new sort of school appeared when examinations for marine engineers were introduced in 1862. An attempt has been made additionally to consider how boys intending to go to sea were educated. Particular attention is paid to the education provided on board training vessels, such as the Tyneside Industrial Training Ship 'Wellesley', and in shore schools, such as those provided by Trinity House, Newcastle, Sunderland Board of Trade Navigation School, Sunderland Orphan Asylum and the South Shields Marine School.

To make the research more significant, an attempt has been made to compare local findings with data from other ports, such as Hull and Leith. These places were chosen because they were east coast ports and involved in trades similar to those undertaken by vessels sailing from the north east ports. They were also selected because they had institutionalised schools as well as proprietary schools available to educate mercantile mariners.

The data for this study was unusually scattered among a wide range of sources. Information about the proprietary schools has been gathered from a number of sources including local trade directories, nautical publications, newspapers and census returns for 1841-1881. Knowledge about many of the institutionalised schools was more accessible, and a great deal of information about the Sunderland Board of Trade Navigation.

Schools and Trinity House School, Newcastle, was contained in the Science and Art Departments Reports. Details of the South Shields Marine School are contained in the School's admission registers, the Governors' Journals and books of press cuttings. The annual report of the Governors of the 'Wellesley' Industrial Training Ship and other materials are available for consultation at the school and a number of Home Office files in the Public Record Office also contain information about the vessel.

The research is significant because it is one of few attempts to assess this aspect of Victorian education. There have been a few attempts to narrate the history of the local institutionalised schools, but this is one of the first projects to make a detailed study of proprietary nautical and marine engineering academies. This is essentially a local case study and a great deal more work needs to be done nationally, but such investigations will be very time consuming. Finally, the work is significant because it is an attempt to evaluate the system of examinations as a means of ensuring greater safety at sea.

EDUCATION OF MERCANTILE MARINERS
IN THE NORTH EAST PORTS (1840 - 1902)

Donald Guy Bovill, M.Ed.

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from it should be acknowledged.

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1987.



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NOTES.

A.

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B.

Some of the material concerning the Marine School, South Shields has been previously submitted in a dissertation for a Master of Education Degree at the University of Newcastle-upon-Tyne in 1982.

C.

During the course of this research, the South Shields Marine and Technical College changed its name and became the South Tyneside College.

D.

Reference is made in the thesis to interviews with Mr. J. Potter of South Shields, which have been transcribed and are held by the author, as are letters from Miss S. Raine of Gateshead and Mrs. M. Nutley.

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ABBREVIATIONS AND SHORT BIBLIOGRAPHY

(place of publication, London, unless otherwise stated).

& and

B.O.T. Board of Trade

H.M. Inspector. Her Majesty's Inspector.

N.M. Nautical Magazine.

P.P. Parliamentary Papers.

S.C. Select Committee.

- E. Blackmore. The British Mercantile Marine Griffin, 1897.
- F. T. Bullen. The Men of the Merchant Service Smith Elder, 1900.
- E. K. Chatterton. Ships and Ways of Other Days Sidgwick and Jackson, 1913.
- R. J. Cornwall-Jones. The British Merchant Service Sampson Low, Marston and Co., 1898.
- S.F. Cotgrove. Technical Education and Social Change Allen and Unwin, 1958.
- W. Fordyce. History and Antiquities of the County Palatine of Durham Volume 7. (Graingerised version embellished by G. Nicholson). undated.
- J. F. C. Harrison. Learning and Living 1790 -1960 Routledge and Kegan Paul, 1961.
- C. Jeans. Critical study of the Education and Training of Masters and Mates in British Merchant Shipping M. Tech. Brunel University, 1970.
- T. Kelly. A History of Adult Education in Great Britain Liverpool University Press, 1972.
- A. Kennerley. Education of Merchant Seamen in the Nineteenth Century M.A. Exeter University, 1978.
- W. S. Lindsay. History of Merchant Shipping and Ancient Commerce 4 Volumes. Sampson Low, Marston and Searle, 1876.
- M. Mason, B. Greenhill and R. Craig. The British Seafarer Hutchinson/B.B.C., 1980.

H. Moyse-Bartlett. A History of the Merchant Service
Harrap, 1937.

Papers Relating to the Commercial Marine 1847-8. lix.pt.1.

P. G. Parkhurst. Ships of Peace Volume 1. Parkhurst, New
Malden, 1962.

G. W. Roderick and M. D. Stephens. Scientific and Technical
Education in Nineteenth Century England
David and Charles, Newton Abbot, 1972.

Royal Commission on the Loss of Life at Sea 1887. xliii.
c. 5227.

Select Committee Inquiring into the Causes of Shipwrecks
1836. xvii. S67.

Select Committee on Shipwrecks 1843. ix. 549.

H. A. Underhill. Sail Training and Cadet Ships Brown, Son
and Ferguson, 1956.

D. Wardle. English Popular Education, 1780 - 1970. C.U.P.,
Cambridge, 1970.

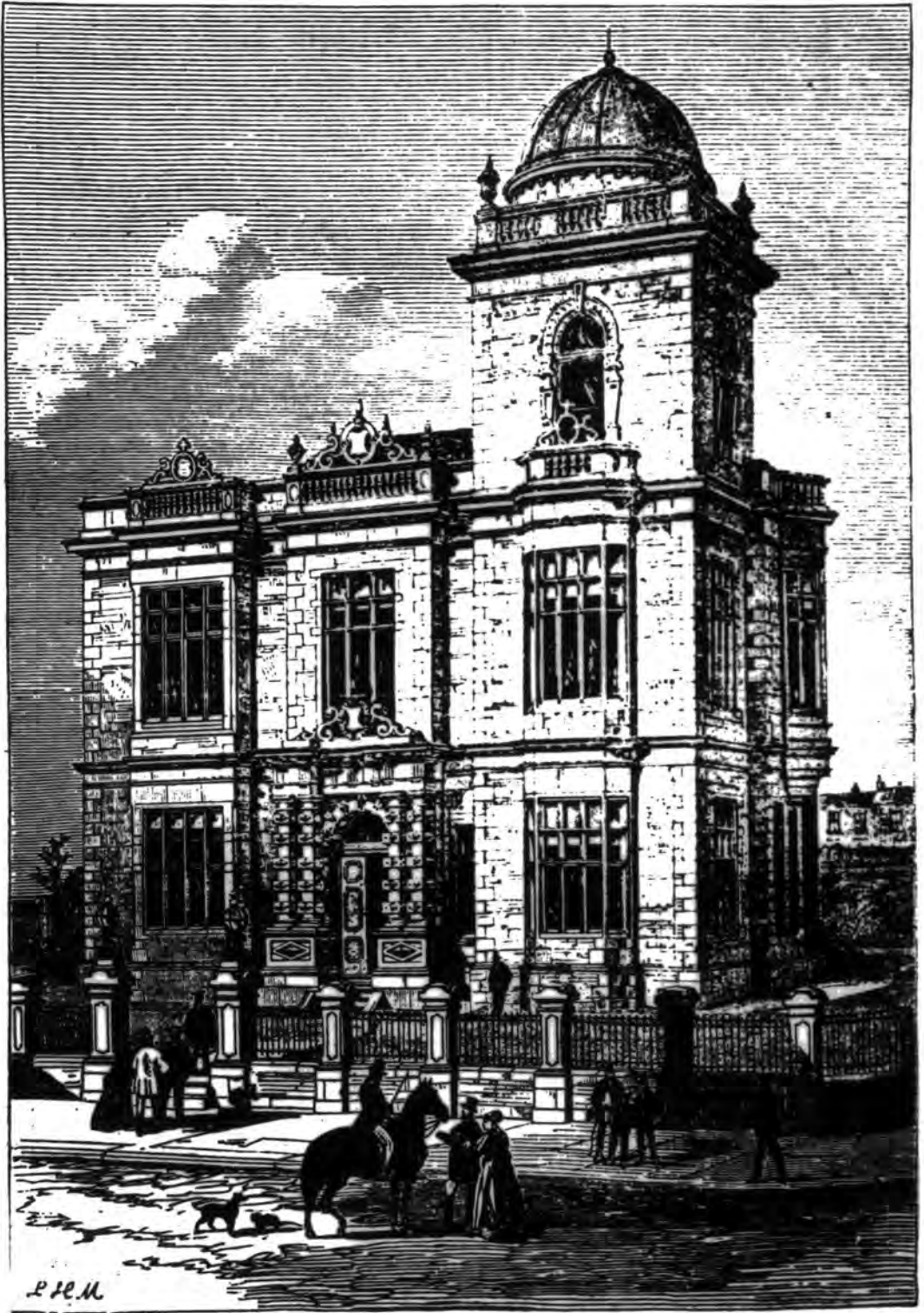
'Wellesley' Industrial School Ship: Annual Reports Newcastle.

S. Wiseman. (ed) Examinations and English Education Manchester
University Press, 1961.

Frontispiece.

Marine School, South Shields.

Source: London Illustrated News 23 January, 1869.



CHAPTER 1.

A Seaman's Life in the Nineteenth Century

What were conditions really like at sea in the nineteenth century and why were boys prompted into becoming mariners? why did the sea become less attractive as a career as the century progressed? These are some of the questions which it is hoped will be answered by drawing upon information in magazines, parliamentary reports, autobiographies and biographies. What is, however, interesting is that some of the views expressed earlier in the century could equally well have been written after 1860. Such evidence would seem to give weight to the hypothesis that even though there were attempts to improve conditions at sea, life remained basically unchanged throughout the nineteenth century.

Many boys seem to have been persuaded to go to sea after hearing stories of bravery. William Richardson and Duncan Wallace, who both went to sea in the 1780s, Sir Walter Runciman, whose sea life began in the early 1860s and C. Fenton, who became an apprentice during the next decade, were all encouraged by older friends and relatives to become mariners. In his autobiography, Fenton recalls a friend called Captain Richards and

'No one could spin a yarn quite as well as he and no one had so many to spin' (1)

Some twenty five years earlier, Robert Thomas, who had been born in 1843, spent many boyhood hours on the quay at Caernarfon

1. C. Fenton, The Sea Apprentice Written 1930s.
Published 1934. p.5.



where he

'heard the yarns from the old shellbacks of the exploits of the boys who had once played on the very quay, but were masters and mates of the fine Liverpool clipper ships' (2)

Other boys seem to have been inspired by the written word; for instance, C. Protheroe, who began his seafaring career in 1878, had no idea of what a sea life entailed, except for

'the unreality gleaned from cheap romances and the fact that (his) two brothers had gone to sea' (3)

The actual smell of the ships and the images of them crossing the bar or being moored in the docks must have also played their parts. John Havelock Wilson, who began his seafaring career in the 1850s, was inspired to go to sea after many visits to Sunderland docks. Captain William Geary, who made his first voyage at the age of sixteen in 1853, recalls in his autobiography

'the white sails of ships passing up and down the Bristol Channel... and gradually the craving became strong within me to go to sea' (4)

Apart from the romanticism, boys often had to go to sea out of dire need and necessity. This was the case with Robert Thomas, who, apart from his attraction to the seafaring life, had to support his widowed mother. The Runciman and the Fenton families also fell on hard times in the 1860s and their children were forced into earning a living.

-
2. A. Eames. Shipmaster Thomas' writings date from 1870s and 1880s. Published in 1980. pp.16-7.
 3. C. Protheroe. Life in the Mercantile Marine 1903. pp.1-2.
 4. Autobiography of Captain William Geary Written after retiring in 1896. Published 1924. p.12.

It is fair to suggest that the sea was often a last resort occupation or accepted because in the south west and north east of England, western Scotland and Wales, there was little choice. Many boys, no doubt, hoped that a life at sea could not possibly be as bad as the drudgery and misery of life in an agricultural community or down the pit. Each year, large numbers of country boys came to the ports in search of berths, and a questionably better life.

Many, like W.S. Lindsay, who went to sea in the late 1830s, had to go because they had been orphaned. At least fifty years earlier, Duncan Wallace claimed that he had been orphaned, when interviewed by a prospective employer in Whitehaven. It seems that orphans got a more sympathetic hearing than boys who had run away from home. Later in the 1860s, the orphan, F. T. Bullen, wandered the streets of London before getting a berth on a ship at the age of twelve. To him a ship was a place of shelter, which provided food, even if it was not of the best quality.

Not all the boys who wanted to go to sea signed the bonds of apprenticeship; some wanted to go only as cabin boys. As the nineteenth century progressed, the opportunities of obtaining such berths declined and many of the boys were ignorant in the extreme, with little or no formal education. They had left home at an early age or had played truant from school, so their prospects in life were rendered extremely limited as a result of the introduction of examinations, which ended their chances of rising to become officers.(5)

5. See chapter 4.

They would have to remain as stewards, cooks or able-bodied seamen. Furthermore, few captains wanted weak little boys, but men who had received some training. As the number of berths decreased for small boys, those who did try to find a ship were often sent away or employed as cheap labour. With the introduction of compulsory schooling up to the age of eleven in 1880, the number of boys applying decreased as well.

There was also a decline in the number of boys becoming apprentices. In 1835, a law had been passed, 5 and 6 Will.IV. c19, which required ships to carry apprentices in proportion to their registered tonnage. A further act of 1844 (7 and 8 Vict. c112) enforced the carrying of apprentices, but both measures were unpopular with shipowners, who complained of the expense incurred in carrying apprentices. Some saw it as a burden on their profits, for apprentices were expensive to train and for the first year or so, gave little in the way of labour back to the owner. Often they cost the owner money, as they had to be fed, and caused him difficulties when they broke their apprenticeship by running away. The system of compulsory apprenticeship was abolished in 1849 and the returns of the Registrar General for Seamen show that there was a drop in the number of indentured apprentices from 15,704 in 1845 to 2,164 in 1894. (6) With fewer British boys in training, the owners started to employ foreign seamen; especially after 1854, when all coastal and foreign-going vessels could be manned and officered by men who were not

6. See Appendix 2. Figures from R.J. Cornewall-Jones. The British Merchant Service 1898. p.276. Also in other sources:

British nationals. (7) Fears were soon aroused as to what would happen in times of war, for the mercantile marine was still viewed as a nursery for the Royal Navy and such aliens were not eligible for service.

After 1850, the shipowners were often blamed for not signing apprentices. Many owners wanted parents to pay a premium, thus discouraging poor, but honest, boys from entering the service. Parents were also concerned as they had doubts about the value of the training offered, and a fear that if at the end of the four or five years apprenticeship their offspring disliked the sea life, they would be unsuitable for a shore occupation. Many were also worried by the accounts which were appearing in novels, newspapers and government reports about the true nature of life at sea.

One factor which must have discouraged many parents from sending their boys to sea was the cruelty with which youngsters were treated. In 1838, Charles Dickens published Oliver Twist, which refers to the lot of many apprentices;

' In great families when an advantageous place cannot be obtained... for the young man... it is a very general custom to send him to sea. The board (of guardians) in imitation of so wise... an example took counsel together on the expediency of shipping off Oliver Twist, in some small trading vessel bound to a good unhealthy port... the probability being, that the skipper would flog him to death, in a playful mood, some day after dinner, or would knock his brains out with an iron bar: both pastimes being, as generally known, very favourite and common recreation among gentlemen of that class.' (8)

7. See Appendix 3.

8. C. Dickens. Oliver Twist 1838. (1962). p. 39.

It is evident from the autobiographies and biographies that there were few changes in the manner in which boys were treated on board ships in the nineteenth century. No matter which decade is being discussed, the treatment seems to have been the same. Of course, it has to be borne in mind that tales of cruelty and hardship would probably sell quicker than those describing kind treatment. Even in the eighteenth century, William Richardson, who began a seven year apprenticeship in 1781, received 'more kicks than half pence'. (9) Several decades later in 1858, the apprentice Robert Thomas was treated like a slave who received a taste of the rope's end if he did not work hard enough. About the same time as Thomas was beginning his sea life, John Wilson, later the miners' leader, and F. F. Bullen were also signing on as apprentices. They were also badly treated and Bullen was once kicked so hard that he fell from the poop deck to the main deck, and as a result was unable to walk for two days. The crew thought him, or any boy, a slave, there to do any of the dirty work, such as polishing, painting or holystoning - a laborious method of cleaning a ship's deck using a piece of stone. On one occasion, Bullen was able to ask a second mate why he had been so unkind. The reply was that

'all the kicks and cuffs... had been prompted by a sincere desire for my interest.' (10)

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9. S. Childers. (ed). A Mariner of England Based on William Richardson's journal, 1780-1817. Published 1908. p.6.
 10. F. T. Bullen. The Log of a Sea Waif Written in the 1890s. Published in 1899. p.89.

Most seamen viewed bad treatment as an essential part of the training. The older seamen had been badly treated when they were young, so it was only natural that they should treat the boys in their care in the same manner. Runciman in his Before the Mast - and After attempted to justify the practice on the grounds that

'It was a first class training for youngsters who managed to stand the Spartan vigour of it and it certainly made the standard of our sailors the highest in the world'. (11)

He conceded that some boys may have died because of the cruelty, but thinks that such occurrences were rare.

It seems that crews were treated in a similar manner and in his evidence to the Select Committee on the Seaman's Bill of 1878, Mr. C. Ilbert observed that captains had an absolute and despotic power over all persons on board. Many captains were little better than tyrants and their officers took a delight in 'working up' a crew. Thirty eight years earlier, Dana in his Two Years Before the Mast observed that 'Jack' was a slave aboard ship and could be flogged if he did not work hard enough. Dana was worked day and night and there was often no time for daydreaming or reading. Even in harbour all the hands were worked from dawn to dark. Dana was, of course, writing about life on an American ship and they had a reputation for tough discipline. Mr. C. Wigram in his evidence to the 1860 Select Committee on Merchant Shipping claimed that

11. W. Runciman. Before the Mast- and After Written in the 1920s. Published 1924. p.40.

'The captain and mates of a foreign ship, American especially, think nothing of knocking a man down with a handspike or pretty nearly killing him.' (12)

F. W. Wallace in Wooden Ships and Iron Men, first published in 1924, argues that many of the stories about life on board American ships in the 1840s and 1850s were exaggerated and those who worked hard had nothing to fear. Discipline on British merchant ships was never so severe, for any master or mate who over-stepped the mark could have been charged with assault. The provisions of the 1850 Merchant Shipping Act were often criticised for weakening the captain's hand, but for decades before the Act, there had been much discussion about the question of discipline.

As early as 1835, Christopher Biden had written that on some ships

'discipline has degenerated into extremes, as undue severity has led to cruelty and oppression, while a lax state... leads to gross negligence... both extremes have often been followed by open and daring mutiny.' (13)

He believed a shipmaster should temper justice with mercy; be an example in the matter of self control, and be impartial in disputes. Biden recommended that grave offences should be heard before a court of enquiry, consisting of the ship's officers, which had the power to call witnesses. He did concede that on some occasions, such as in a mutiny, prompt action was

12. Select Committee on Merchant Shipping 1860. xiii.530. q173 p.11.

13. C. Biden. The Present Condition of the Merchant Service Suggestions for the Amendment thereof... 1835. p.17.

required. In fact, what Biden was proposing was a system of court martials, as used on board the vessels of the Royal Navy and the East India Company.

When the 1850 Act came into force, a system of fines and recording wrong-doers names in the ship's log was introduced. Biden wrote to Labouchere of the Board of Trade that such a system would lead to men refusing to do their duty, as the fine for the offence was only six days' wages. Biden called for 'more stringent and summary modes of punishment to preserve discipline' (14)

A somewhat different view of the 1850 Act was expressed by William Crutchley, who wrote in 1851, that there

'was a vague uncertainty about the discipline of the Merchant Shipping Act then, which practically gave the shipmaster carte blanche to use what methods he pleased to maintain order and discipline, but left him with the responsibility of defending his actions in a court of law.' (15)

Few captains appeared in court and only one case seems to have attracted the public's attention, that of the captain of the 'Locksley Hall' in the 1870s. The master was sentenced to imprisonment for assaulting one of the crew and an article in the Nautical Magazine accused the magistrate of being ignorant of the usages of the sea. The immediate effect of the case was that it made the law ambiguous and allowed the forecastle lawyers to cause discontent by questioning the captain's authority.

14. Nautical Magazine (hereafter N.M.) Vol. XIII. 1850, p.132.

15. ibid. Vol. LX. 1891. p.783.

Even as late as 1879, some writers to the Nautical Magazine felt that indiscipline could only be ended by giving the shipmaster the authority to punish as necessary. All punishments, including corporal chastisement, were to have legal backing, but others took a possibly more enlightened view. In a letter from 'A limejuice, not a sauerkraut', the author wrote that

'A captain who degrades or tries to lower his officers in the sight of Jack makes an uncomfortable ship, but a provident man with smart officers at his back will soon bring things back to order.' (16)

What Biden and the anonymous writer above would have agreed on, though there was thirty five years between the publication of their letters, was that the crew needed their officers to set a good example. This fact was also hinted at in many of the Consular replies to James Murray's Circular in 1844. (17) Sir Alex Ferrier in his reply noted that the captains of ships from Shields and Newcastle were often incapable of controlling their crews. The Consul at Hammerfast, Norway, commented that masters and mates

'are the most ignorant; illiterate and brutal set to be met with' (18)

Generally, it was felt that

'The seamen are so unaccustomed to kind treatment that they never look for it.' (19)

16. ibid. Vol. LIV. 1885.p.248.

17. See Appendix I.

18. Papers Relating to the Commercial Marine 1847-8. lix. pt. 1. p.169. (Hereafter referred to as Papers. 1847-4. lix.Pt.

19. ibid. p.235.

Similar comments are to be found in the Consular replies to a Board of Trade Circular issued in November 1869. Some members of the crew, no doubt, needed a firm discipline because of their turbulent characters, but Consul Brackenbury of Lisbon seemed to sum up the situation;

'The general condition of merchant seamen is good... morally it is better than... could be expected from their deficient education and from the bad examples set by masters and officers of smaller vessels.' (20)

However, by the end of the century, it generally seems fair to conclude that

'although brutality may not be unknown...it has long ceased to be a fashionable occupation and has died its natural death in consequence.' (21)

Such an opinion seems to have been particularly applicable to the situation on board many steamers, which usually attracted a better class of men due to the higher wages paid.

Another factor which must have dissuaded many parents from sending their sons to sea was the bad food and accommodation. In his Consular reply of 1872, Consul W. Ward wrote that there were new fields of employment

'in which able-bodied and intelligent men (could) find a better living than at sea where the pay is mostly low, the accommodation and provisions of an indifferent character and the treatment by their superiors is sometimes brutal and cruel.' (22)

His opinions are substantiated by the evidence given in the autobiographies and biographies of seamen.

20. Replies by certain of H.M. Consuls 1872. liii.(630) p.238. (Hereafter referred to as Replies. 1872 liii(630).

21. N.M. Vol. LIV. 1891. p.783.

22. Replies 1872. liii (630) p.289.

W. S. Lindsay in his History of Merchant Shipping and Ancient Commerce recalled his days as an apprentice in the 1830s. He, with the rest of the crew, was housed in the forecastle which measured five feet high, twenty one feet wide and twenty feet long. There were no means of illumination or ventilation and in stormy weather, the place flooded. There was no room for tables, chairs or stools and the only place to sit was on the sea chests. Sometimes water casks were placed in the forecastle, which meant that there was less room for the crew.

'Here the apprentices and sailors slept, washed, dressed and had their food in bad weather... Rats ran around. No stoves or fires were possible... Damp clothes had to be dried there as well (and often) ice had to be beaten from them before they could be used.' (23)

In fact, conditions generally were so bad that Parliament felt compelled to act and Section 63 of the Merchant Shipping Act of 1850 declared that

'every place in any ship occupied by men or apprentices and appropriated to their use, shall have a space not less than nine superficial feet for every adult measured on the floor of such place, which shall be kept free from stores and goods of any kind.' (24)

The provisions of the Merchant Shipping Act of 1854 provided fifty four cubic feet for men sleeping in hammocks and seventy two cubic feet for those who did not. Furthermore,

'Every such place shall be properly caulked and in all other respects securely and properly constructed and well ventilated.' (25)

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23. W.S. Lindsay. History of Merchant Shipping and Ancient Commerce Vol. 2. Written in the 1870s. Footnote on p.497.
 24. Mercantile Marine Act 1850. 13 and 14 Vict. c90. section 63.
 25. Mercantile Marine Act 1854. 17 and 18 Vict. c104. Section 231.

Failure to comply incurred a penalty not exceeding £20, while if the fore-castle was not kept free from stores, each infringement incurred a penalty not exceeding £10.

Although the conditions may have improved on some vessels, evidence from some of the autobiographies suggests on many ships, life continued unchanged. John Wilson, who went to sea in 1858, and Bullen, who sailed in the 1860s, found that the legislation had had little effect. Bullen found that on one vessel the anchor cable passed through the fore-castle, which quickly became a 'neglected sewer' (26) due to the mud that was deposited there. It seems that the legislation did not apply to vessels already in service.

Perhaps, one would have expected the greatest improvements in the accommodation of seamen to have taken place on the new iron ships, especially steamers. On such vessels, the men were no longer housed in the fore-castle, but in cabins. However, these were often affected by condensation, which meant that bedding and clothes became damp. With better ventilation, the problem could have been overcome, but as late as 1901, William Allingham wrote in the Nautical Magazine that it was time for the Government to appoint a Committee to consider ships' accommodation and food. He probably would have agreed with J. E. Anderson's evidence to the Royal Commission into the Loss of Life at Sea in 1884 that good accommodation encouraged the crew to be more contented. The question was how many owners concurred or really cared as

26. Bullen op. cit. p.33.

long as the profits kept rolling in.

It is also evident that throughout the nineteenth century, the quality and quantity of food provided on board ships left much to be desired. Writing of life in the 1830s, Lindsay noted that he was fed on inferior salt beef and pork, which was 'hard and unpalatable,' (27) and brown biscuits full of maggots. However, usually the main complaint about the food was that there was little variety and too much dependence on salted meat. From 1844, the sailors' articles of agreement included a space to insert a scale of provisions and later in 1854, the Board of Trade recommended a scale, which became known as the 'pound and pint' scale. However, it was not legally enforceable and it was frequently condemned in the Nautical Magazine and other publications. Such moves seem to have had little effect, for when John Wilson went to sea in the 1860s, he was given food that

' was death to a man's digestive organs, it was conducive to scurvy. On (one) voyage, outward and homeward, we had some salt beef which was making its third voyage around the cape. On more than one occasion, I saw one of the sailors carve out a small box from a piece of it.' (28)

Creatures had burrowed into the ships biscuits, but

'they were not weavils, which are small, but were large and well fed.' (29)

One cannot help but wonder how many other nineteenth century seamen had similar experiences. Also on many vessels, the

27. Lindsay, op. cit. p.498.

28. J. Wilson. Memoirs of a Labour Leader Written during the first decade of the twentieth century. Published 1910. p.110.

29. ibid.

quantity of food given was often small due to

'the captain... having so much allowed to provision the vessel would scheme to save, and by giving light weight and short measure... made a profit for himself.' (30)

Furthermore, many masters when they became owners adopted the self same methods and

'applied them with a vigour that would have put their former commanders to shame.' (31)

Generally, conditions seem to have been worse on vessels undertaking long voyages, where men were often asked to tighten their belts and were kept short of clean drinking water. Such occurrences would have been rarer on coastal vessels, but 'An Old Tar' in his Description of a Voyage in the Coal Trade, possibly written in the 1820s or 1830s, recounts the story of a collier whose crew ate only if the master was hungry.

Further evidence that there was continued dissatisfaction with ship's food comes from Protheroe, who wrote in the late 1890s, that what was good enough for previous generations of seamen was not good enough for those sailing at the end of the century:

'In this age, there is no excuse for a scale of provision as salt as Lot's Wife and that inevitable pantile ship's biscuit.' (32)

It had been known, even at the beginning of the nineteenth century that a lack of fresh vegetables and too much salt could lead to outbreaks of scurvy.

30. ibid. p.100,

31. W. Runciman. Windjammers and Sea Tramps 1905. pp.99-100,

32. Protheroe. op. cit. p.182.

The Government seems to have been worried by the large number of outbreaks of the disease, so the Merchant Shipping Act of 1854 stipulated that there should be a daily issue of half an ounce of lime juice on all foreign going ships. However, the measure proved unsuccessful, as a number of owners provided juice of inferior quality. A further legislative enactment, the Merchant Shipping Act of 1867 (30 and 31 Vict. c24) required owners to buy the juice from a bonded warehouse, and it had to be of due strength. The juice was to be provided ten days into the voyage and not after ten days of salt provisions as some owners thought. The measure seems to have been only a partial success, for an article in the Nautical Magazine of 1889 reported that the Board of Trade had discovered that the cases of scurvy had increased each year from 1873, for many owners believed that if they provided lime juice, there was no need to give fresh provisions. What was really needed was an improved dietary scale with more fresh vegetables. It was not until later that the Inspection of Ships' Provisions Act required the inspection of food, but some owners got round the act by claiming that they were only sailing to the Mediterranean, so their provisions were not inspected. However, they would change their plans and go through the Suez Canal into the Indian Ocean. If they had declared their true intentions before leaving port, the ship's provisions would have had to have been inspected before departure. William Allingham agreed with John Havelock Wilson that there should have been an inspection of food on all ships and this was one of the aims in the 1890s of the latter's union of seamen.

Another reason why the sea became an unpopular profession was probably that seamen were seen as drunkards and the victims of vice. They seemed to lose the respect of the rest of the population, as they were no longer thought of as the daring saviours of Britain from Napoleon Bonaparte. In nearly all the replies to Murray's Circular in the 1840s, there are references to drunkenness amongst seamen. Vice-Consul Booker (Russia), Consul Whitehead, Consul Curry (Belgium), Consul Close, Consul Clark (Santiago de Cuba), and T. Scott, all mention the lack of sobriety. Even in 1872, Consuls Hannay (Barcelona), Crowe, de Capel-Crowe, Ward, Blackwell and Kartright referred to the problem. Mr. Brown at Genoa went as far as to record that

'the evil of drunkenness is the greatest which now afflicts our mercantile marine' (33)

Evidence from seamen's autobiographies supports the Consuls' findings and Bullen and Thomas, who were both crewmen in the 1860s, served under drunken officers. Thomas found on one ship that

'the captain was only as a child on board for he had (so) undermined his constitution with drink that when he was sober he was like a child' (34)

Later in the century, during his time on the 'Chatto' in the 1880s, Protheroe found that the captain was drunk for the first three weeks of the voyage and that he suffered from delirium tremens. When compared to foreign seamen, the

33. Replies 1872, liii, (630) p.222.

34. Eames, op. cit. p.76.

British seemed to be the worst offenders, as Mr. Winyard, at Riga, commented in his reply to Murray in 1844;

'It is a well known fact that foreign seamen conduct themselves in a more orderly manner than British seamen' (35)

They were also more sober, better educated and more capable seamen. By 1872, many Consuls were able to observe that foreign seamen and ships were preferred when transporting goods. Even in Britain, many owners preferred to employ foreign seamen because they were more temperate in their habits. However, during the last decade of the nineteenth century only a minority of British seamen arrived on board their vessels intoxicated, and this can be attributed to the decline in the practice of having a 'whisky farewell' and the influence of sailors' homes. It had once been rare for seamen to join ships in a sober condition and the Nautical Magazine in 1885 had asked for the Royal Commission on the Loss of Life at Sea to consider the question.

'We cannot see why, where seamen are incapacitated wholly, or in part, from causes arising from the effects of drunkenness, debauchery, disease or laziness... their wages shall not be reduced and the difference given to those who work.' (36)

It is interesting to note that some fifty years earlier in 1834, the Report of the Select Committee Inquiring into Drunkenness recommended that more ships ought to sail on the temperance principle. American ships which had tried the experiment were found to be safer and better disciplined.

35. quoted in the Nautical Magazine Vol. XVII. 1848. p.310.

36. ibid. Vol. LIV. 1885. pp.998-9

The same committee also felt that many of the wrecks and strandings were

'clearly traceable to drunkenness in some of the parties employed in navigation and in charge of such vessels' (37)

The Select Committee discovered that in the ports, the greatest increase in drunkenness occurred where men were forced to go ashore, as they could not stay on board. Once they had disembarked, the sailors fell into the hands of crimps (unofficial shipping agents) and prostitutes. In the Committee's view there was a connection between the two and there was a need for legislation to control the sale of drink.

Life did, however, become increasingly difficult for the crimps, for a clause in the 1854 Mercantile Marine Act prohibited them from boarding vessels or coming within the dock gates. Furthermore, from 1878, the 'midge' system of paying wages was increasingly used, which meant that a seaman received enough money for his rail ticket and the rest was posted to his home or deposited in his bank account. After 1880, the advance note system was abolished and allotment notes were issued instead, which required the seaman to name the recipient of his wages as they became due. It was soon found that the allotment note system was open to abuse as well, and some owners still issued advance notes, but called them by some other name, such as bonus notes. By the late 1880s attempts were being made to re-introduce the advance note system, but with controls as to how much could be charged when the note was cashed.

Some crimps were probably little better than pimps, using prostitutes to tempt seamen into their lodging houses. To many Victorians, seamen went in search of the pleasures of the flesh as soon as they landed in port. Such behaviour was often condemned, and used as evidence for the view that seamen were lacking in morals. Connected with the problem of prostitution was the increase in numbers of men afflicted with venereal disease. The Nautical Magazine noted in 1881 that

'All our seaports are infected with a low class of prostitutes... many seamen are infected shortly after arrival.' (38)

A Select Committee established nearly twenty years earlier had recommended certain steps which would effect a moral, social and physical good. The result of the Committee's labours was the passing of the Contagious Diseases Acts of 1864, 1866 and 1869. The earlier acts applied mainly to ports used by the Royal Navy and later other ports, such as Bristol, Hull and Cardiff were included. There were many difficulties in implementing the Acts. In Hull, there were, for instance, no facilities to treat pox-ridden women, and, where hospitals existed, the women often discharged themselves before treatment was completed. The legislation was, no doubt, full of good intentions but its success was limited. Prostitution in many ports declined, but in 1872, Consul J. Crowe's Consular reply noted that many men were still incapacitated by a 'loathsome disease'. The answer was really

'Police supervision, regular medical inspections and detention in hospital till cured.' (39)

38. N.M. Vol. L. 1881. p.216.

39. ibid. Vol. XLV. 1876. p.16.

Later in 1879, the Nautical Magazine called for the Acts to be extended to all ports and the medical examination of all seamen before signing their articles of agreement.

Considering the reputation of seamen, many respectable parents must have feared what sort of company their sons were keeping in the ports. An honest boy would not only be meeting prostitutes ashore, but whilst at sea he would be messing with lads from industrial training schools or ships and reformatories. "Many parents believed that their sons would become tainted if they kept the company of boys who had been associated with thieves, vagrants and prostitutes or even worse, boys with criminal records. To many, this would have been a decisive argument for not sending a son to sea.

Another reason why the mercantile marine became an unpopular profession was that the sailor's life seemed to become increasingly at risk. The following table shows the number of vessels on which the entire crews were drowned. More crews seem to meet an untimely end in the 1830s than between 1816 and 1818.

Table I. No. of Vessels on which the entire crews were drowned in each year.

1816.	-	15 vessels.	1833.	-	38 Vessels.
1817.	-	19 vessels.	1834.	-	24 vessels.
1818.	-	15 vessels.	1835.	-	19 vessels.

(figures quoted in the Report of the Select Committee Inquiring into the Causes of Shipwrecks. 1836. xvii. 567.p.iii)
Statistics concerning the numbers of people drowned each year were to show a similar trend.

Table II. No. of People drowned each year.

1816 - 945	1818 - 256	1834 - 578
1817 - 499	1833 - 572	1835 - 564

(ibid)

It is possible that the figures are not completely accurate, but one can discern an upward trend in the 1830s, whilst between 1816 and 1818 there was a decrease. The numbers of vessels stranded, missing or lost are given below.

Table III - Vessels stranded or lost

1816 - 343	1818 - 409	1833 - 596	1835 - 524
1817 - 362		1834 - 454	

(ibid)

Table IV - Vessels missing or lost

1816 - 19	1818 - 30	1833 - 56	1835 - 30.
1817 - 40		1834 - 43	

(ibid)

Table III shows that the number of vessels lost or stranded between 1833 and 1835 was greater than for the period 1816 to 1818. However, it is very hard to discern any trend in these figures, as there seems to be a wide variation from year to year. This may be attributable to factors, such as gales and storms, which were beyond the control of legislation. Other factors could be influenced by Parliament and during the period 1841 to 1843, there were fewer losses registered at Lloyds due to the prohibition on carrying deck cargoes, which had been introduced after the 1839 select Committee on Shipwrecks of Timber Ships had reported. The figures produced, four

years later, by John Straker, from North Shields, substantiate the view that the prohibition was having a beneficial effect.

Table V. - Returns from the Mutual Insurance Club and Eligible

<u>Club, North Shields</u>			
<u>Years.</u>	<u>Ships Lost</u>	<u>Total Number of ships insured by the two clubs.</u>	<u>Percentage of ships insured lost</u>
1824-29	29	388	7.47
1830-35	21	395	5.32
1836-42	29	561	5.17

(Source: First Report of the Select Committee on Shipwrecks 1843. ix. 549. p.129.)

The public were still alarmed, especially when the numbers of British ships lost were compared with foreign vessels wrecked. The Nautical Magazine quoted the following figures, which were submitted to the Select Committee on Shipwrecks in 1844.

Table VI - Ships lost per annum.

<u>Year</u>	<u>British</u>	<u>Foreign</u>
1832	345	139
1833	626	185
1834	432	158
1835	594	158
1836	284	115

(Source: Nautical Magazine Vol. XIII, 1844, p.343.) (40)

40. See Chapter 8 for statistics covering the period after 1855.

The Select Committee of 1836 listed ten reasons why sailors were at risk. These included incompetency, (41) drunkenness, inappropriateness of form, imperfect charts, a need of harbours of refuge, the operation of marine insurance, improper or excessive loading, inadequate equipment, poor repairs and defective construction. The 1843 Select Committee was in complete agreement, but it emphasised a need for correct charts, an awareness of compass deviation and the construction of ships with water-tight chambers.

Mr. Brindley in his evidence to the 1836 Select Committee blamed poor building methods and ignorant shipbuilders for many of the losses. Lieutenant Robert Wall, R.N. was in complete agreement but he blamed sea insurance as well. Lieutenant J. R. Forrest, R.N. and James Ballingall in their evidence expressed similar views, as they thought that some owners were often neglectful of repairs, for a minority hoped that a vessel would thereby be lost. They could then make a claim on the insurance and in some cases, vessels were over-insured. This system of operating had been known for many decades and was one of the abuses exposed by Samuel Flimsoll in his book Our Seamen, published in 1873. In fact, it could be argued that owners were encouraged to build frail ships because they could be insured at a reduced rate and cost less to build. 'Vindex' wrote in the Nautical Magazine in 1835 that owners and underwriters were in league together

41. See below.

for

'they not only refuse to countenance the building of strong and safe ships, but when such are built, they enter into a dark conspiracy so to classify them in their registers that they shall not be distinguished from the ordinary or even bad ships. (42)

Furthermore, it could be argued that it paid an owner to have a vessel completely lost and a weak vessel was more likely to be so. James Ballingall, in a letter to the same magazine, noted that if a vessel was completely lost, the owner was paid in full, but if a strong vessel was only damaged, he received only two thirds of the costs involved. On a number of occasions in the 1830s, the Nautical Magazine published figures which proved that vessels which had been in service only a few years were more likely to be wrecked. The situation was to change somewhat later in the century, when older sailing vessels were replaced by steam ships. Unwanted sailing vessels could be easily purchased in the 1870s and 1880s, which opened the way for unscrupulous men to buy them and make a quick profit. As early as 1836, Mr. H. Woodroffe, in his evidence to the Select Committee, noted that such men did not understand the ways of the sea and were more likely to send a ship to sea with a deficient crew. Later John Mitchell, in his evidence to the 1843 Select Committee, referred to the practice of undermanning as a means of saving money and increasing profits. The practice of undermanning was to continue throughout the nineteenth century and it was not until 1896 that a Board of Trade Committee recommended a manning scale.

42. N. M. Vol. IV. 1835. p.25.

The overloading and the over-insuring of cargoes by a minority of owners were two other problems of last century. A vessel and its cargo would be insured, so if it foundered a claim could be made on the insurance policies concerned. In his evidence, Henry Woodroffe mentioned the need for a better method of valuation for insurance purposes. He, like Plimsoll nearly forty years later, complained about the practice of over-insurance. There was no means of establishing the true value of a ship or the value of its cargo. Some owners placed an exceedingly high estimate on the value of their property, so if a vessel and cargo were lost, they made an even greater profit. Ballingall suggested an impartial board to value mercantile vessels, but throughout the nineteenth century little or nothing was done to alter the system of marine insurance. Several Select Committees considered the problem and made recommendations limiting the extent of the insurance cover, so the owner would have to stand for some of the loss. Parliament generally seems to have been reluctant to act, possibly because it feared annoying persons with vested interests. The result was higher premiums and a greater cost for the public to pay.

In some quarters, there were calls for the abolition of marine insurance in the 1830s and 1870s. Such views were based on the fact that uninsured vessels were less frequently lost than those which were insured. Also they argued that some Scandinavian countries did not have a system of marine insurance and their vessels were conducted in a safer manner than British ships. Ballingall, in 1835, complained that he

had been

'represented as advocating the total abolition of sea insurance. I advocate no such measure.'(43)

What in fact Ballingall wanted was better built vessels, marine insurance reform

'and an examination into the qualification of the officers. If carried faithfully into effect, they would preserve the lives of British subjects to the extent of at least upwards of a thousand a year.' (44)

It was, perhaps, Ballingall's last idea which gained most public support for it was generally felt that the sea had become the domain of the ignorant and the illiterate. In some parents' eyes, it was a waste of money to educate a boy only to have him go to sea. Many encouraged their offspring to enter professions and occupations on shore, which were often better paid. Furthermore, they had doubts as to the training given on board. How could boys be trained by such ignorant and incompetent men? Many of the witnesses which appeared before the Select Committee in 1836 commented on the situation. Mr. Brindley, for instance, stated that

'There is a great want of education. Many captains are ignorant men, taken from the lower classes of society and not sufficiently instructed in navigation; many of those men are very good practical seamen, but they are not sufficiently educated for the great trust reposed in them.' (45)

The Select Committee concluded in its report that the

43. N.M. Vol. iv. 1835. p.552.

44. J. Ballingall. On the True Causes of the numerous shipwrecks and the Loss of Life at Sea 1835. p.12.

45. Select Committee Inquiring into the Causes of Shipwrecks 1836. xvii. 567. q.1434. p.92.
(hereafter referred to as S.C. 1836).

incompetency of officers is

'admitted on all hands, this incompetency sometimes arising from the want of skill and knowledge of seamanship, but more frequently from the want of an adequate knowledge of navigation; it having been proved that some masters...have hardly known how to trace a ship's course on the chart or how to ascertain the latitude by meridian altitude of the sun; that many are unacquainted with the use of the chronometer and that very few indeed competent to ascertain the longitude by lunar observation' (46)

The Select Committee on Shipwrecks of 1843 was to come to similar conclusions, even though it admitted that some of the evidence was rather 'contradictory'.

The evidence from the seamen's autobiographies and biographies would seem to substantiate the view that many seamen were ignorant. Runciman in his Windjammers and Sea Tramps records that in the 1840s

'there were hundreds of master mariners, who could neither read or write and had a genuine contempt for those who could.' (47)

They believed that 'learning', as they called it, was connected with nautical ignorance and as proof cited the blunders of theoretical seamen. What they ignored were the countless losses caused by illiteracy and innumeracy. Many could not read a chart and navigated along the coast using landmarks, so if they lost sight of land they were in difficulties. Yet they were, in many ways, good practical seamen and business men, for their livelihoods depended on it.

Foreign-going masters were ignorant as well, and their vessels when wrecked were often many miles from their

46. ibid. p.vi.

47. Runciman. Windjammers and Sea Tramps op. cit. p.10.

calculated position. In the 1840s, the owner of a vessel could appoint anyone as a master. Mr. H. Woodroffe, in his evidence to the 1836 Select Committee recalled one instance of a ship where the owner had selected a relative,

'A young man in a butcher's shop only a few months back:' (48)

Another youngster on taking up command found that all the crew and officers were older than himself. If such inexperienced persons were placed in command, how could they be expected to train any apprentice under their care? Many masters neglected this legal requirement of the agreement of apprenticeship, and those so bonded had to acquire the arts of navigation and seamanship as best they could. The emphasis was on practical training and not on theory or academic education.

A further insight into the condition of the mercantile marine and how it compared with those of other countries can be ascertained from the Consular replies to Murray's Circular of 1 July, 1843. Twenty replied that foreign shipmasters were superior, while the Consul at Riga wrote that

'the British Commercial Marine is in a worse condition than that of any nation' (49)

Mr. Plaw, the Consul at Danzig, had similar views and he added;

'The vast improvement in the condition of the shipping of this country (Prussia)... is doubtless chiefly attributable to the government school here, of which branches are established, all under one director, at other seaports' (50)

48. S.C. 1836. q.336. p.23.

49. quoted in P. G. Parkhurst. Ships of Peace 1962. p.141. Also in P.P. 1847-8. lix. Pt.1. p.235.

50. N.M. Vol. XVII. 1848. p.310.

The schools to which the Consul referred had been established at Stralsund, Stetten, Danzig, Pillau and Memel. Private instruction formed no part of the plan of the Prussian navigation schools. B. Hessler, the Prussian Consul in London had described the aims and work of the Prussian schools in the Nautical Magazine in 1838. The object of the system was

'the scientific education of the complete merchant seaman, who must unite in himself all that is requisite; 1st, for a master shipbuilder, 2nd, a steersman, 3rd, for a captain of a ship (shipmaster and captain). (51)

The course seems to have lasted three years, but if a student only wished to be a shipbuilder, he attended the shipbuilder class for a year without going for the other two years. All the scholars had to be able to read and understand arithmetic and fractions. The shipbuilding class was taught

'in the winter half year... algebra, geometry... plain trigonometry, tracing designs of shipbuilding... rigging or sailmaking... shipbuilding. In the summer half year... shipbuilding in detail... trigonometry... hydrostatics... rules by which to calculate the strength and durability of wood and ships cordage... mechanics: the most essential principles are... elucidated by experiments, for which proper models are provided. Shipbuilding wharfs and dockyards are visited. (52)

The steersman's class covered in the winter half year; mathematics, geography, nautical astronomy, use of the compass, knowledge of charts, theory of the lever and theoretical sciences.

51. ibid. VII. 1838. p.264.

52. ibid.

'In the summer half year, practical steersman's science and exercise the same in the roads, theory of ship's evolution... manoeuvres' (53)

The sea captain's class included in the winter half year, geography, statistics, hydrography, general ideas of physics, Prussian Maritime Law, keeping a journal and drawing up reports.

'In the summer half year, management of ships, commanding the same... exercises in the roads... maritime customs... astronomy and attending the observatory throughout the year.' (54)

The basic philosophy behind the courses was that theory should be taught in the winter and the practical in the summer.

Hamburg also had a navigation school from 1760, but it was under private control until 1816. The courses were similar to those outlined above, but there was no compulsion on mates to attend and the onus was on the officers to pass the examinations.

The Prussian Mercantile Marine had strict rules governing who could be officers. A mate had to be twenty years old, with five years' sea service. There were two grades of certificate; the first qualified a man for any voyage and the second, limited officers to sailing the Baltic or vessels not exceeding forty tons if they traded to the Cattegat or the Skager rock. Captains were given three grades of certificate; the first allowed them to sail to any part of the world; the second, to European seas, the Mediterranean, the Black Sea and the Atlantic, and the third class to trade in the Baltic. A

53. ibid.

54. ibid.

captain of the first class had to be twenty eight years old and sailed as a captain of the second class for at least two years or as a mate beyond the limits prescribed for captains of a lower class. Captains of the second class had to be twenty four and sailed for two years as mates of the first class. No one could be licensed as a captain of the lowest grade at a younger age, unless he had been two years a mate of the second class. The Prussian system seems to have been similar to that established by the Sunderland and Shields Marine Insurance Associations in the late 1830s.(55)

The Prussian examination system had been established in 1811 and included tests in arithmetic, geometry, use of the logline, use of instruments, nautical astronomy, lunar observation, chart work, keeping a sea journal, rigging and ship's accounts.

The qualifications for entry to the Dutch Mercantile Marine as masters and mates were equally severe. Only gentlemen from good families and of superior education entered the service as officers. Even before Britain established examinations, the Dutch had examined their future officers, but their tests of competency were only for men on vessels trading to India and other distant places. The masters and mates of coasting vessels had to satisfy the owners of their competency, but had to sit no examination. In the second part of the Papers relating to the Commercial Marine (1847-8) mention is made of there being a school in Amsterdam for boys intending to enter the Royal Navy. The school was not a state

55. See Chapter 4.

institution, but ran by a private society.

Denmark also had a system of licensing mates of merchant vessels. Before a certificate was issued, candidates were required to undertake two voyages to the Mediterranean and one to the East and West Indies, as well as being acquainted with the navigation of the Cattegat and the Baltic. Furthermore, they had to produce testimonials from their previous captains showing their good character and experience as a navigator. They had to be at least twenty three years old and the qualification for mate also qualified an officer for captaincy as well. However, before being given such an appointment, the prospective master was required to become a burgher of the place where he resided and pay fees securing him the right of citizenship.

The qualifying examinations were conducted by an existing captain and two lieutenants of the Navy. Candidates had to show a knowledge of dead reckoning, the nature and use of logarithms, geometry, the nature and use of the compass and log, the form and motion of the earth, the geographical lines projected on its surface so as to determine the position of different places, Mercator's chart and laying down a ship's course on a chart. They also had to know how to keep a journal, use a quadrant, allow for currents, leeway and the variation of the compass and be familiar with nautical astronomy.

Norway gave its future officers a similar examination and a still more vigorous test in seamanship, navigation,

shipping affairs, customs and nautical law. The system had been inaugurated in August 1839 and was in two tiers. The lower part for mates was described as the ordinary test, which had to be passed before they were eligible to sit the higher mates' examination. The ordinary test included an introduction to navigation, decimal fractions, logarithms, trigonometry, compass variation, use of the log, methods of determining a ship's position and nautical astronomy. The higher examination continued with the same subjects and added problems on the sextant. The higher and lower tests consisted of both written and oral papers. The examiners were not allowed to hold schools and they were appointed by the King.

Across the borders in Sweden, commanders were divided into three classes according to where they sailed. Mates were also divided into three classes according to the rank they held in the ships' command. Sailors were similarly divided into able-bodied, second class and third class. Able-bodied seamen were supposed to know about rigging, repairing sails, heaving the lead and steering. The next lower group had to have a knowledge of reefing, rowing and steering, while the lowest group had to be able to reef, read and write. There were schools in all the ports giving a free education, with the government paying the teacher and providing books and instruments. The local community was required to pay the rent, heating and lighting.

The Swedish examinations for second class mates included arithmetic, magnetic influence, sextant, the lead, the log,

navigation, correction of bearings, use of log book and loading ships. Mates of the first class and second class masters had to have a knowledge of geometry, trigonometry, astronomy and chronometers. Captains of the first class, in addition, were taught elements of mechanics, astronomy and elements of shipbuilding. The Scandinavian countries seem to have taken a lead when training young men for the mercantile marine. They preferred a system under which they were educated not only on shore, but on special training ships. (56)

A country which was usually considered as being backward socially and economically was Imperial Russia. However, as far as nautical matters were concerned, the picture was somewhat different. Government schools of navigation had been established at many ports to educate youths for the mercantile marine in the eighteenth century. In 1806, the Nicolaieff School for training masters and pilots for the merchant service was founded and some twenty six years later it was enlarged and resited at Cherson. A similar school was founded at St. Petersburg at the same time. The schools generally offered a good theoretical education and the St. Petersburg School included courses for prospective officers and naval architects. The course lasted four years and entrants had to be able to read and write. The school was divided into two divisions and those from the lower division who failed to pass for the higher one were returned to their parents or

56. See chapter 3.

apprenticed, if orphans. In the lower division, the aim seems to have been a good general education, while in the higher division, the course concentrated on nautical subjects including geography, arithmetic, swimming, gunnery, navigation, languages and astronomy. Lessons were also given on board ships in the local docks. The examinations for officers included navigation, seamanship and reading and writing English and French. The idea of British seamen learning a foreign language was often suggested later in the 1880s and 1890s. It provoked a storm of controversy and was rejected on the grounds that transactions were usually negotiated in English.

Another country with a well organised system of nautical education was France. Consul Ferrier stated that

'The education of young men destined to become shipmasters is better in France than in England and the examinations they must undergo before they can command, ensure... efficient and well informed masters' (57)

The French state and commercial navies were organised under the same regulations. Members of the services were awarded a pension, unlike Britain, where the Voluntary Merchant Seaman's Fund failed due to lack of support. French seamen were required to pay a proportion of their wages to the fund. All French sailors were considered to be government employees and their names were registered in the Office of Marine Commissioners of the port where they belonged. From the age

of eighteen to fifty, they could be ordered to serve on a government ship for as long as necessary. Every French Seaman had to serve for three years on a state navy ship before gaining employment in the Commercial Marine. At the age of fifty or on the completion of three hundred months at sea, a pension was awarded. At the end of his sea life, all that a British seaman could look forward to was poverty or being the object of charity.

To educate the French seaman, each port had a government paid professor to give free instruction. When a candidate applied to sit the examinations, he had to state which school had been attended and prove that he was at least twenty four years old with five years sea service. The examination for foreign-going ships' captains included rigging a ship, manoeuvring ships, gunnery, arithmetic, geometry, trigonometry, theory of navigation, the use of instruments and observations. Practical questions were also asked on rigging and the working of a vessel. Coastal masters were examined in the same subjects, but were also required to show a knowledge of soundings, depths of water, the bearing of headlands, the position of dangers, the currents and tides within the limit assigned to coasters on the shores of the Atlantic or the Mediterranean. Their theoretical examinations included the use of compasses and charts, use of instruments and the practice of calculations. Second captains had to be twenty one years of age and served four years at sea.

Not only did France realise the need for educated seamen, Spain did as well. Consul Mark of Malaga reported that there

were nautical colleges at San Telmo and Seville.

The Venetian republic passed a law in 1786 requiring their captains to prove that they were Venetian subjects or naturalised Venetians, who had resided in the State for fifteen years. Candidates had to be at least twenty four years of age, with eight years service on a private or state ship. They were examined in the theory and practice of navigation, reading and writing, the law also stated that a Venetian subject having an interest or share in a vessel and being duly qualified was entitled to command in preference to any other master.

Other Italian states, including Sicily, made provision to educate masters and mates. Sicilian seamen could attend schools at Sorrento, Naples or Messina. There was also a school at Palermo, established in 1789, which provided free education for eight boys, aged from twelve to eighteen, who had been to sea for two years in square-rigged vessels. The course lasted two years and included French, Italian, arithmetic, algebra, geometry and trigonometry. The pupils were then returned to the sea and examined for a mate's ticket when they attained the age of twenty one. Those in the coastal trade were examined in the lower branches of navigation only, while long voyage officers were tested in all branches of nautical science.

Austria required its commanders to be at least twenty one years old and be domiciled in the country or one of its dominions. They also had to have served for at least five years in vessels other than coasters. Commanders were

examined by government officers charged with the affairs of navigation and trade, the professor of mathematics in the Naval College, the captain of the port, a member of the chamber of commerce and two experienced captains. Questions were asked on theoretical and practical navigation, seamanship, naval laws and discipline.

Apart from Great Britain, the only country which did not adopt a system of examinations was the United States of America. It continued to use a system of patronage, whereby a prospective mate or master had to know or be recommended to an owner. The alternative was for a man to save up enough money to buy a share in a vessel and become its commander, by that method. It was not until the 1870s that America established training ships for future officers. (58) Before that decade, training had to be acquired on board an ocean going vessel. Once the training or apprenticeship had been completed, a man signed for any berth he thought himself capable of fulfilling with the proviso that if he proved incapable, his colleagues would make his life a misery.

Generally, it seems fair to concur with Murray's conclusions that

'The character of British Shipping had declined and that the character of foreign has improved... That there is no system of regular education for the merchant service, but that in foreign countries the matter is much attended. That the sort of education which a British subject receives when training for the higher grades of the merchant sea service does not suffice to qualify him to represent with advantage to the merchant by whom he is employed.' (59)

58. See chapter 3.

59. Papers 1847-8. lix. Pt.1. p.141

Plate I.

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Advertisement for James Lackland's School,
South Shields.

By kind permission of the Local History Library, South
Shields Central Library.

EDUCATION.

School Room, Independent Chapel, Glebe.

James Lackland,

Respectfully informs his Friends and the Public, that he teaches Navigation in all its Branches; the use of the Nautical Almanac, and the various Instruments for Observing Altitudes, Angular Distances, &c. at Sea; with the manner of taking a complete set of Lunar Observations, in order to find the Longitude.

Mensuration, English Grammar, and other Branches of English Education.

EVENING SCHOOL

Re-opens Monday 11th October.

Terms may be known by applying as above. Quadrants Cleaned and Corrected.

In fact, it would seem just to write that many seamen and officers had either attended school for short or irregular periods while apprentices or they had not attended at all. Murray believed that what was required was

'not merely a study of navigation and seamanship, but a thorough knowledge of ships' husbandry and the stowage of cargo. (60)

Murray also speculated whether it was morally correct for the state to allow the large class of subjects who belonged to the seafaring profession to be kept in a state of ignorance.

The Report of the Select Committee considering shipwrecks in 1843 was to come to similar conclusions. It believed that the answer was a system of examinations (61) and

'the establishment of schools for the purpose of teaching navigation in the different seaports, to be supported by a small tonnage duty to be levied on the vessels belonging to such ports.' (62)

Seven years earlier, the 1836 Select Committee had recommended the foundation

'of cheap nautical schools, either in ships adapted to the purpose or in appropriate buildings on shore, in which the duties of practical seamanship and the elements of navigation should be taught to young apprentices, who are training up for the sea... and for the purpose of inculcating habits of sobriety and moral character, all of which are at present, neglected. (63)

60. ibid.

61. See Chapter 4.

62. Select Committee on Shipwrecks. 1843. ix. 549. p.iv. (hereafter referred to as S.C. 1843. ix. 549.)

63. S.C. 1836. xvii. 567. p.ix. para. 35.

Education, it was hoped, would be a means of making men more moral, sober and a cure for social ills. Perhaps, the Victorians had too much faith in the power of education and expected too great an amelioration from it.

CHAPTER 2.

The Education of Boys in Shore Nautical Schools in the later
nineteenth century.

By the 1830s, the need for action had been recognised, but little seems to have been done to remedy the problem of ignorance among seamen. The Government seems to have been unwilling to provide schools, as state interference in commercial matters was not popular, and shipowners were an influential body in the House of Commons. Throughout the nineteenth century, Governments maintained the stance that nautical education was a suitable object for charity, thus leaving the field open to individual or group benevolence. As early as 1811, a public subscription fund had raised enough money to establish the Royal Jubilee School, which was to educate 'the children of the poor of the town' (1) of North Shields. Instruction was to be given in reading, writing, arithmetic, scripture and navigation, but when T. Haswell (2) attended as a pupil from 1815- 1818, he could not remember receiving lessons in navigation. He learnt it from his father, a Mr. Marshall, who was a mathematician, and an old schoolmaster, who ran a school in Bamburgh Castle. It seems that whether navigation was included in a school's curriculum depended on the capabilities of the master. The same seems to have been true later in the century, for when T. Dobson (3) was appointed to the Hexham Grammar School in 1862, he

1. G. Haswell. The Maister 1895. p.78.

2. See Appendix I.

3. See Appendix I.

introduced navigation as an extra.

In South Shields, about the same time as the 1836 Select Committee was considering the question of shipwrecks, another individual expressed an interest in the education of seamen. Dr. Thomas Winterbottom (4) was prompted to draw up his Statutes for a Marine School, but he was not in favour of educating young boys, as they would not be able to understand the complexities of the art of navigation. He thought that the students in his school should be at least seventeen years of age and have served at least one year at sea. However, his Statutes did allow the second master or headmaster to give private instruction in the use of the globes. It was this clause which allowed a boys' department to be established in 1886, some twenty five years after the school for adults opened. (5)

There had been earlier attempts to set up a boys' department, but these had met with opposition from the headmaster, Rev. R. E. Hooppell, (6) who believed that the school was to educate only adults and apprentices. The question of a boys' department had first been discussed in the newspapers in 1865 and again in 1869, when the Marine School's new building in Ocean Road was completed. Many of the articles which appeared mentioned a 'classroom' or a 'schoolroom' and to many people that meant that boys were soon to be admitted. Hooppell maintained his stance and wrote

4. See Appendix I.

5. See Chapter 6 and 7.

6. See Appendix I.

that

'if boys be admitted, it will degenerate into a boys' school. It must be one thing or the other, a school for boys, or a college for adults.' (7)

Hooppell had the support of seventy students, who also wrote to the Governors.

Later in the Autumn of the same year, Hooppell delivered a paper, at the Social Science Congress, Bristol, criticising the master and mates examinations on the grounds that they ignored the basis of a sound general education, concentrating only on 'specialised' problems. A few days later, the Shields Gazette reported that the Secretary of the Local Marine Board suggested that Hooppell, himself, could remedy the situation by providing a second sort of school, a preparatory school. The idea was supported by 'Chips' in the Shields Daily News, but Hooppell replied that

'the question of providing a larger range of subjects in the examinations has nothing to do with...extending the school for teaching boys.' (8)

Six members of the Marine School with master's certificates supported Hooppell's interpretation of the statutes.

After much debate another attempt was made to establish a boys' department in August 1874. The boys had to be aged at least thirteen on entry and they were to receive mathematical and nautical instruction. A series of advertisements appeared in the Shields Gazette in the July,

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7. Letter from Rev. Hooppell to the Marine School Governors, 5 February 1869.
 8. Hooppell's Newspaper Cutting Book. 1869. (Hereafter Hooppell's scrapbook).

but no boys came forward, as the parents believed that it was better to try 'the sea first and school after.' Matthew Cay also referred to the short-lived experiment when he appeared before the Royal Commission on the Loss of Life at Sea in May 1886. He informed Admiral Cooper that the Governors were willing to try again to start a boys' department. (9)

The efforts to establish a boys' nautical school in South Shields may have been delayed by debate, but in other north eastern ports, such schools had existed for many years. In Newcastle, the Trinity House School had been established in 1712 to educate, free of charge, the children of the poor brethren in writing and mathematics. Sometime after 1716, the curriculum was extended to include navigation. In 1753, the school moved from a room below the chapel to new premises in the lower courtyard, where it continued into the nineteenth century. Several attempts were made to remodel the school, possibly as a response to the findings of various Select Committees in the nineteenth century.

Little is known about the school before 1850, except that in May 1838, the master, Mr. Andrew Tinwell was ordered to revert to the printed regulations, possibly, of 1825. It has not been possible to discern what this actually meant, as no other details are given. The 1825 Regulations required

9. Royal Commission on the Loss of Life at Sea 1887. xliii. c.5227. q.20254-7. p.307.
Matthew Cay was a Marine School Governor.

that on entering the school

'each scholar having a right to the school by birth or servitude shall... pay the master...two shillings and sixpence...(and) non-freemen or persons having no right to the school by birth or servitude shall be admitted to the school during the school hours from Martinmas to Candlemass and such non-freeman not having a right shall not exceed twenty at any one time.' (10)

It is possible that the practice of attending the school during the winter was an old one, for William Richardson did so during his apprenticeship from 1781. Perhaps Tinwell had been successful in persuading such boys to attend and exceeded the number allowed, but the Trinity House Journal for December 1840 shows that

'The falling off in the Trinity House school of late years in the number of scholars was again brought before the board.' (11)

Attempts were made by one of the Brethren, Thomas Gibson, to have the school closed, but the other Brethren decided that the school was still needed. They gave Tinwell six months notice with one year's salary as compensation and convened a special committee to undertake the re-organisation. On 10 July, 1841 Thomas Grey was appointed to the post of schoolmaster, but no other details of the Special Committee's proposals have survived. It is not even possible to speculate by drawing comparisons with the Hull Trinity House School, as they were independent institutions.

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10. Trinity House Order Book 1803-et seq 7 February 1825.
 11. Trinity House, Newcastle, Journal, 1840-50. 31 December, 1840.

The difference between the two schools came to the attention of Dr. Lyon Playfair, Inspector of Scientific Schools from the Privy Council Committee for Trade, commonly known as the Board of Trade. The Council had been interested in education for many years and in a memorandum dated 26 June 1849, Sir Denis Le Marchant, the Permanent Secretary, wrote that if government schools were established

'sound instruction... in nautical science and general knowledge could be obtained on very moderate terms... The expense (would) in part (be) defrayed by the government (and) out of the fees payable...so that the terms may be moderate. The numbers in each school might be limited and the vacancies filled by competition.' (12)

However, the predominant view of the Board of Trade Marine Department was that it was the seaman's own responsibility to obtain a suitable education and the responsibility of parents to educate their children. It was not the Government's business to provide vocational education for boys and officers in the mercantile marine; a view repeated frequently last century. Furthermore, the Marine Department had no funds to organise nautical schools, so the most it was willing to do was use the Education Departments General Education Fund to make grants and send officials to advise interested bodies.

In the Autumn of 1856, the Brethren of Trinity House approached Lyon Playfair with a view to remodelling the school. On 3 November 1856, the Trinity House Journal recorded that he had recommended the school at Newcastle and Hull 'be conducted in the same manner.' (13) The Brethren decided to send a

12. quoted by P.C. Parkhurst. op.cit. pp.161-2.

13. Trinity House, Newcastle, Journal, 1856-62. 3 November 1856. See chapters 6 & 7 for Playfair's ideas on adult nautical education.

deputation, led by James Kelly, to inspect the Hull School on 9 December.

The Hull Trinity House School had been re-organised with Playfair's help in June 1854. Playfair had suggested that the school should be placed in connection with the Board of Trade and be subject to its inspection. The Corporation of Kingston upon Hull Trinity House was to retain the sole management of the school. Playfair also proposed that a trained pupil-teacher should be obtained from Greenwich Nautical School to teach in the upper department and a certified teacher be employed in the lower department. Playfair's plan had been operating for two years when the Newcastle deputation visited Hull and they seem to have been impressed with what they saw.

The Newcastle Brethren decided to remodel their school into a pure navigation school, similar to the upper school at Hull. The Brethren informed Playfair of their decision on 26 January 1857 and that they were willing to spend up to £200 per annum on suitable accommodation and other expenses. The Brethren also gave Grey notice that it was

'necessary for him to qualify for the headmaster's position like any other candidate.' (14)

Such decisions did not lead to a harmonious relationship between the schoolmaster and the Brethren, and the situation deteriorated further when Grey was informed that he would have to pass an

14. Trinity House Letter Book. Letter to Dr. L. Playfair, 16 February 1857.

examination in London conducted 'by persons appointed by the Government.' (15) To obtain a teacher's certificate of competency, a candidate was examined in problems relating to latitude, longitude, plane sailing, great circle sailing, the compass, the sextant, nautical astronomy and the keeping of a sea journal. Other parts of the examination concentrated on compass deviation, lunar observation, steam, boilers, horse power, the screw and mathematics. Furthermore, all candidates had to have a certificate from the Committee of the Privy Council for Education or pass a special examination on elementary teaching. Examinations were considered by the Victorians as the best method of ensuring competency and selecting a suitable candidate. The idea that some candidates could be competent and still fail an examination was not widely accepted. Mr. Grey seemed to fear the examination and he refused to co-operate, so on 1 June, he was dismissed from the school.

According to the Fifth Report of the Science and Art Department, for the year 1857, the remodelled school at Newcastle opened on 1 June 1857 and closed on 8 September. When Playfair visited the school, he found only fifteen boys in attendance. It seems fair to assume that Playfair and the Brethren must have been disappointed with the results of their efforts, but Playfair made further recommendations to improve the situation. He thought that there should be an assistant master employed in addition to the headmaster. The

15. ibid. Letter to T. Grey, 16 May 1857.

former was to teach in the lower department, while the latter undertook duties in the upper department. On 6 July 1857, the Brethren employed Mr. William Thorn (16) as head and Mr. James Bolam, his assistant, a few weeks later. The similarities between Hull and Newcastle Trinity House Schools were now obvious, as were those between Newcastle and the navigation school founded with Playfair's help in Sunderland.

The Sunderland Board of Trade Navigation School had been established after the local sailors' home contacted the Board of Trade. Generally, the idea seems to have been supported by the towns people and the local newspapers, one of which claimed that the project was

'a means of elevating the intellectual or moral status (of seamen)...ameliorating their social condition and enlarging their qualifications for the discharge of the... duties of their calling.' (17)

Such sentiments were highly reminiscent of those expressed by the Select Committee of 1836. Sunderland was considered to be a particularly suitable place for such a school 'as the town (was) free from many of the evils of other seaports.' (18)

Dr. Playfair had suggested the establishment of a lower school, which would provide an elementary education, similar to the lower department to be established later at Newcastle. The feeling at the meeting was that there were already enough such schools in Sunderland to act as feeders to Playfair's other proposal, an upper or navigation school. Some also

16. See Chapter 5 and Appendix I.

17. Sunderland Herald 16 March 1855. p.5.

18. ibid.

expressed the view that the town could not afford to establish two schools at the same time, as the Board of Trade would not assist with the lower school and aid would have to be sought from the Committee of the Privy Council for Education. such doubts led to only the upper or navigation school being opened on 10 September 1855.

The Government would defray half the costs involved in purchasing charts, instruments and equipment, just as it did at Newcastle. At Sunderland, the salary of the master was guaranteed by the Government. Half the fees paid by the men and boys was to go to the Government to help pay the salaries. In a letter dated 14 July 1855, the Lords of the Committee of the Privy Council for Trade agreed to a change in the arrangements. They proposed

'half of all the fees from the day school for boys be paid to the master and three-fifths of all the fees from masters, mates and seamen' (19)

During the first year of teaching the master was to be paid at least £100, the same as Mr. Thorn at Newcastle, who also received a portion of the fees. Blackmore in his book

The British Mercantile Marine noted that usually

'the Department...made up the teacher's salary to £140 per annum, the least grant given being £40. In this manner, some sixteen navigation schools with about 3000 students in attendance were maintained at a cost of about £2500 per annum.' (20)

19. ibid. 10 August 1855.

20. E. Blackmore. The British Mercantile Marine 1898. p.177.

When the Sunderland School started the financial assistance came from the Board of Trade, but in April 1863, the Science and Art Department assumed responsibility. To ensure that the teacher was competent, the amount of grant paid depended on the class of certificate held by the teacher, as directed by the Committee of the Privy Council decision on 25 February 1856. Certificates of competency to teach navigation were granted in three grades and paid thus:

Table VII Grade of Certificate and Salaries.

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
Headmaster	£120	£100	£80
First Assistant	£80	£70	£60
Second Assistant	£60	£50	£40

Source: Captain Ryder's Report, Sixth Report of the Science and Art Department 1858.

In his report on Navigation Schools, Capt. A.P. Ryder (20a) proposed that teachers' salaries should be based on a fixed amount, supplemented by a qualification allowance and an amount calculated on the number of passes in the half yearly examinations.

At Newcastle, the exact arrangements for paying the masters' salaries have not been discovered, but we do know that Thorn and Bolam both received augmentation grants, amounting in Thorn's case to £120 in 1860. Bolam's successor, G. Adamson, was appointed at a salary of £50 per annum; half the salary of the headmaster. It seems to have been the custom to pay assistant teachers approximately half the salary given to a headmaster. Later at the Marine School, South

20a. Capt. A.P. Ryder was H.M. Inspector. See Chapter 6 for his views on adult nautical education.

Shields, the Rev. Hooppell received £350 in 1869, while the assistant was paid £100. The next head, Thomas Dobson (21) received £250 per annum and his assistant £100.

The Science and Art Department also assisted the Boys' Department of the Marine School, for on 11 November 1886, Mr. A. Flagg (22) reported

'the Science and Art Department had made arrangements by which help was given to boys who secured foundation scholarships. If anyone subscribed £5 for a scholarship, the Department would supplement it for three years; they would give £4 for the first year, £7 for the second and £10 for the third. (23)

Some twenty eight years earlier, A.P. Ryder had been aware that there was a need for government assistance when parents were unable to pay the fees for their boys to attend navigation schools. He suggested prizes and exhibitions to include remissions of fees. (24) Further aid for the Marine School came from the grants earned by successful candidates in the Science and Art Department Examinations in navigation, nautical astronomy, steam, mathematics, drawing and physics. Sometimes the boys left when they obtained an apprenticeship without taking the examinations, which resulted in a loss of grants. Usually, the Boys' Department seems to have operated at a loss and between 1886 and 1891, the deficit was £53.13s. The head, it seems, was expected to make good the loss from other funds or his own pocket. Later the Governors decided

21. See Appendix 1.

22. See Appendix I.

23. Shields Gazette 11 November 1886.

24. See below.

to change the minute concerned so that the head was no longer liable. It is also interesting to note that when A.P. Kyder wrote his report in 1858, most of the boys' departments in the Board of Trade Navigation Schools were operating at a loss. It seems that the adults' fees covered most of the expenses of the schools.

We can discern that there was an increase in government involvement with nautical schools, especially with regards to finance. In his report of 24 January 1863, Captain Donnelly (24a) noted that in 1862, £2088 was paid in grants to schools. However, throughout the 1850s and 1860s, the Government was at pains to distance itself from the schools, as they were

'schools of the locality. They were not schools of the Government, though the Government extended aid to them.' (25)

The reason for this was that the Government did not want to appear to be interfering in the education of seamen, for some owners felt that Government action should be limited to the training of boys entering the Royal Navy or Royal Naval Reserve. The emphasis was still on self help, as each school organised with the Board of Trade's assistance had its own local committee which had to find accommodation, fix the fees, raise funds and appoint the staff.

The belief that the education of future seamen was a suitable object of charity expressed itself again in the 1850s, when the Freemen and Stallingers of Sunderland made moves to establish an Orphan Asylum. The idea seems to have

24a. Capt. Donnelly was H.M. Inspector. See Chapters 6 & 7 for his ideas on adult education.

25. Sunderland Herald 16 March 1855.

originated on 27 September 1849, when Mr. James Robinson suggested it at a meeting of the Freemen of Sunderland. However, the Bishop of Durham disputed their claim to the Town Moor, but on 31 July 1851, an assize trial in Durham resulted in the jury deciding that 'neither party... (had) sufficiently proved a title.' (26) Shortly afterwards the parties came to an amicable agreement whereby the Freemen could establish the Orphan Asylum if the Bishop received £200 per annum towards the cost of the ministry in Sunderland.

Not all the inhabitants of the town were happy with the Freeman's act of charity and an editorial appeared in the Sunderland News and North of England Advertiser, which suggested that there were ulterior motives for establishing the asylum.

'A stranger would think...(they) were motivated by the most religious and benevolent motives... To speak in plainer terms the promoters assume exclusive property on the Town Moor and ask Parliament to endorse this assumption, they take away the rights of inhabitants to the moor.' (27)

A week later, the same paper reported that the Sunderland Corporation also opposed their Bill on the same grounds and that the enclosure of the moor would adversely affect the health of the population who used it for recreational purposes. A letter appeared from J. W. Summers which claimed that the Freeman and Stallingers only had

'right of pastorage and no other rights whatever.' (28)

26. Sunderland Herald 14 December 1860.

27. Sunderland News and North of England Advertiser 18 June, 1853.

28. ibid. 25 June 1853.

Claims were even made that Bishop Pudsey had given the inhabitants a charter to the moor in the twelfth century and that the land in question had been a common from time immemorial.

The Sunderland Orphan Asylum Act came into effect late in 1853 and the Freemen and Stallingers became the Principals and Governors of the institution. The income for the asylum was to be derived from subscriptions and the money earned by renting out part of the moor to various industrial concerns. T. Corfe in his History of Sunderland, also notes that extra finance became available when the Freemen received £8400 as compensation from the railway company which leased part of the moor.

At the first meeting of the Principals and Governors on 10 December 1853, Robinson read a statement giving the objectives of the charity, which had been established to relieve the poor children of Sunderland, Bishopwearmouth and Monkwearmouth, whose fathers were dead, incapacitated or lunatic. The Governors seemed to widen the definition of orphan to include boys whose fathers were living but unable to support or care for them. They also regretted the fact that Sunderland

'did not possess one single charitable institution...for the relief of the bereaved seamen, while at the same time, we possess more than one thousand ships.' (29)

29. ibid. 10 December 1853.

The Code of Byelaws stated that the institution offered a comfortable home to the orphans of merchant seamen, fishermen and seagoing engineers from any part of the kingdom. If there were insufficient applicants from orphans of seamen to fill any vacancy, other orphans from Sunderland would be eligible for election as inmates. Each Governor and Principal was to have one election vote for each guinea subscribed annually and any person subscribing one hundred guineas could place one duly qualified child in the asylum, if there was room.

The inmates had to be aged between eight and twelve on admission and they were not to be dismissed before the age of fourteen. Furthermore,

'no diseased, deformed or infirm child shall be eligible and before admission...every child shall be examined by the surgeon,' (30)

as they were expected to enter the mercantile marine. It seems that this rule was open to abuse when it suited the Governors, for at least one infirm boy was admitted in 1868, even though it was realised that having only one arm would mean that he would not be able to gain employment at sea. A stringent medical examination was also given to those boys committed to the Training Ship 'Wellesley' on the River Tyne.

Furthermore, the Sunderland Orphan Asylum Byelaws also required that

'the marriage of the parents, the age and legitimacy of the child, the death or infirmity of the father, or the incompetency of the mother (if living) to support and educate the child must be proved.' (31)

30. Byelaws made in Pursuance of the Sunderland Orphan Asylum, Act. Report and Accounts 31 January 1939.

31. ibid.

It would seem that if this rule was rigidly applied, illegitimate children were not eligible for admission. It has not been possible to discover if any such children were admitted, but given the Victorians' disapproval of bastards, it seems unlikely. A fallen woman was expected to care for her offspring or depend on the mercy of the Poor Law Guardians.

Subsequent meetings of the Governors were not concerned with educational matters, but questions of leases and tenants on the Town Moor. In time, the Governors and Principals were considered to be

'a myth... At all events, their proceedings a mystery' (32)

With such criticism, they were prompted to act and in August 1856, the question of education once more came to the fore. The Governors discussed the election of twelve children, and it was announced that enough money had been raised for the

'erection of a new and suitable residence and schoolroom, a step necessitated by the early expiration of the lease and limited accommodation of the present establishment.' (33)

Among those who donated money were Trinity House, Newcastle, and Queen Victoria, who sent a cheque for £100. She also expressed a desire to see the plans for the proposed building. In August 1859, the foundation stone was laid by the Earl of Durham and the building was completed in October 1860. In the same month, a meeting was held to appoint a master and matron, but due to the difficult financial situation, the decision had to be delayed. The building had cost £4000 and

32. Sunderland News. 3 June 1854.

33. Sunderland Herald 29 August 1856.

to raise more money it was necessary to sell some of the stock which formed part of the endowment. It was hoped to realise £1500 by this means, but when all the debts had been settled, there was only £150 left. A further appeal had to be launched, but by April 1861, still no staff had been appointed, as no income had been received for six months. However, four months later, enough money must have been raised to hold an election to select ten boys and Mr. Gillespie had been appointed as master.

The curriculum offered at all the shore nautical schools seems to have been similar. Thomas Haswell, at the Royal Jubilee School, North Shields, introduced music, freehand drawing, elementary chemistry and geography into the school in 1839. The course for the last subject included the recognition of the various continents, map work and chart reading, which would have been very useful for future sailors. The equipment and books were bought by Haswell or borrowed from various sources, including the North Shields Mechanics Institute. Thomas was unwilling to ask the committee for financial help, in case they refused or ordered him to stop. Later, he introduced astronomy, but his efforts to teach the subject were hampered by the boys' lack of mathematical knowledge. However, on many

'a clear winter night after school hours, when the steadfast eyes of the firmament looked in upon a dark world, the globe was carried out into the schoolyard, placed upon a table and there-surrounded by a small band of lads - the master stood...ready to impress the young minds.' (34)

The principal star groups, planets and the sun would be found, as well as

'the zenith distance, amplitudes, azimuths ... until the art of navigation had been approached and largely acquired as a mere incidental outcome of these astronomical enquiries.' (35)

The regular study of navigation was so skilfully approached that

'it became a privilege and a delight to be admitted to the class.' (36)

Haswell also included lessons on eclipses, the moon's phases, the equation of time, tides and their relation to the moon's motion. When Haswell began teaching astronomy, he had no books on the subject, so all the diagrams had to be extemporised and it was some time before he was able to acquire a copy of T. Keith's Use of Globes.

Thomas Haswell was still not satisfied, as he realised that there was a need to teach some practical geometry. There were no instruments available in the school and those on sale were too expensive, so he had some made out of wood. Later he had to provide other equipment when he introduced science and electricity. He must have realised that his own knowledge was somewhat inadequate, for he often invited travelling 'philosophers' such as 'Professor' Dicks, to lecture in the school. Usually the Royal Jubilee School provided free education, but when a guest speaker came, one old penny was charged for admission.

35. ibid.

36. ibid.

The curriculum at the Newcastle Trinity House School was also to evolve as the nineteenth century progressed. In Parson and White's Directory and Gazetteer of the Counties of Durham and Northumberland for 1827 and Slater's Directory of Newcastle, North Shields and South Shields for 1848, we are informed that 'the school is said to educate scholars in nautical knowledge', (37) studying a curriculum of writing, arithmetic and mathematics. However, the Trinity House Journal for 1840-50 (38) informs us that the Brethren had decided to purchase an azimuth compass for the use of the school. No clue is given as to who was to use the compass, whether it was the men, the apprentices or boys, it is not possible to say.

It is equally impossible to deduce how the teaching was organised, but an idea can be obtained from A.P. Ryder's report of 1858 in which he stated that aided navigation schools were

'to have large airy rooms, a good playground, gym poles and a lending library.' (39)

The boys were to be separated from the adults and placed in one of six divisions according to the length of time spent in the school. Boys entered the second division when they had been in the school six months and the third division, when they had attended twelve months. Ryder advocated that there should be three rooms in the accommodation; one for adults, a second for the upper or nautical class and a third

37. Parson and White's Directory and Gazetteer of the Counties of Durham and Northumberland 1827. p.lxxvi.

38. Trinity House Journal, 1840-50. 5 June 1848.

39. Sixth Report of the Science and Art Department 1858.p.162.

for the lower or preparatory class. At Newcastle Trinity House School, it seems that both the men and boys were taught in the same room. Perhaps the teacher would set the boys an exercise and then attend to the men, either individually or in groups. Generally, it seems that schoolmasters were expected to educate a wide range of abilities and ages. At the Royal Jubilee School, when Haswell's fame had spread, two hundred boys were in attendance on occasions, but not all of them would have learnt the art of navigation. Many of them, especially the very young, would have to be taught the alphabet, reading, writing and arithmetic. Teaching must have been a very demanding task and sometimes the instruction could hardly have been satisfactory with the master's attention so divided. The solution was to employ assistant masters, an idea tried at Hull Trinity House School from 1849, when the school was re-organised into upper and lower departments. In the latter department, the curriculum was reading, writing and arithmetic, and those who failed to achieve a satisfactory standard after two years were not allowed to proceed to the upper department, where arithmetic, book-keeping, geography, astronomy and navigation were taught. The boys left the school at the age of fourteen to enter an apprenticeship with a suitable captain.

Both Newcastle and Hull Trinity House Schools educated their pupils in Christian morality, as those who had been introduced to Christian principles were less likely to lead debauched lives. The Newcastle Trinity House Rules of 1825 required the boys to attend the chapel on the first Monday in the month. At Hull, the boys were taken to Holy Trinity

Church 'for moral improvement', (40) while at the Sunderland Orphan Asylum, the boys were educated according to the principles of the Church of England.

The schools organised with the help of Lyon Playfair were to have a common curriculum. The elements of reading, writing, arithmetic and geography were taught at Newcastle Trinity House School by the assistant in the lower division. Possibly, the boys were introduced to navigation by the assistant or headmaster, who taught the higher nautical school. The same happened at the schools in Hull and Sunderland, where a boys' day school is known to have provided a course in reading, writing, arithmetic and geography. (41) Further details were given in the Mercantile Navy List for 1859, which stated that the subjects taught in the Board of Trade Schools were arithmetic, bookkeeping, elementary mathematics, physical geography and other subjects relating to trade. The boys were also to be introduced to the use of the sextant, chart drawing, meteorology, algebra, trigonometry, the compass and the code of signals. They were to receive sound instruction for three years from the age of twelve or thirteen. On entry the boys had to be proficient in reading, writing, grammar and the four rules of arithmetic, as no instruction was given in these subjects.

A.P. Ryder also listed mechanics, letter writing, nautical astronomy and engineering as being taught in the Board of Trade Schools. The Mercantile Navy List informs us that

40. G. Jackson. The Foundation of Trinity House School, Kingston upon Hull. Durham Research Review September 1968. Vol.5. p.318.

41. Recds Tide Tables 1870. Advertiser, p.24.

'the principles and construction of the steam engine as applied to the paddle and the screw' (42) were to be taught to both the boys and the men. The Sunderland Board of Trade School seems to have included the subject in its curriculum from 1857 or 1858 and in 1860, one of the boys won Lardner's book on the steam engine. The first mention in the school's advertisements of engineering was in 1871, when the boys' day school curriculum included 'navigation and engineering' (43) What is interesting is that the need for educating future engineers had been realised even before the introduction of examinations for marine engineers in 1862.

The standard of education in the Sunderland Board of Trade School seems to have been very high, for in his report, Captain A.P. Ryder noted that

'the proficiency arrived at extended upto the standard of a seaman's examination for mates certificate' (44)

Such a situation seems to have been contrary to what Ryder found in other schools, where the boys were usually neglected by the teachers, as they concentrated on working with the adults, who paid more and preferred 'the head to remain with them'. (45) To solve the problem, Ryder suggested that

'the headmaster...be directed to (giving) his whole energies to the boys, entrusting the adults to an assistant master specially prepared for that purpose.' (46)

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42. J. H. Brown (ed), Mercantile Navy List 1859. pp.377-8.
43. Reed's Tide Tables 1871. Advertiser, p.42.
44. Sunderland Herald 27 April 1860.
45. Sixth Report 1858. op. cit. p.153.
46. ibid.

To effect such a change, the practice of basing the head's salary partly on the adults' fees would have to be discontinued.

The standard in the South Shields Marine School Boys' Department must also have been very high, as foundation scholars and fee-paying pupils had to pass a competitive examination in arithmetic, algebra, geometry (Euclid Book 1), spelling, geography and drawing to gain admission. The results of the first examination held in September 1886, showed that four candidates had gained scholarships. For a time, only one foundation scholar and one fee-payer attended but by the end of October, the numbers had increased to the extent that it was possible to form an engineering class in addition to the navigation class.

The nautical or navigation class aimed to give a rudimentary knowledge of navigation, while the engineering class was to educate boys destined to be sea-going engineers, the curriculum being very similar to that offered in the Sunderland Board of Trade Navigation School twenty five years earlier. The work at the Marine School was not completely theoretical, for on occasions, the boys were taken to the seaside to take observations with their sextants and obtain some knowledge of surveying. How reminiscent of Haswell's work with the globes in the schoolyard at North Shields, but the criticism was often made that shore nautical schools ignored the practical aspects of seamanship. Hanway in his Proposals for County Naval Free Schools, published in 1783,

was aware of this and he suggested that a period at sea was necessary to complete the school education.

One way to overcome such criticisms was to have a model ship or a mast erected near the school. This solution was also proposed by Hanway and possibly one of the first schools in the north east to have such a device was the Royal Jubilee School, North Shields, where a mast was a feature of the playground. The Sunderland Orphan Asylum also acquired one after the Governor's wrote to the Admiralty in November 1860 asking for a quantity of stores to erect the necessary masts and rigging to assist in the training of the boys in seamanship. The Lords of the Admiralty granted their request in consequence of the large number of Sunderland men who had joined the Naval Reserve. The land-based model ship was erected during 1862 and 'launched' in the September. She was christened 'The Victoria' in honour of the patron of the charity and she was armed with ten brass guns. Such a model would be useful in helping the boys overcome their fear of heights when they were in the rigging.

During the summer of 1862, the boys from the Sunderland Board of Trade School were allowed to use the model on the condition that Mr. J. J. Stiles, (47) the school's headmaster, brought the boys himself. Mr. Robinson, one of the Asylum Governors, also believed that he should instruct the inmates as well. In the August of that year, Mr. R. Simey, (48) Secretary of the B.O.T. School, suggested that an instructor

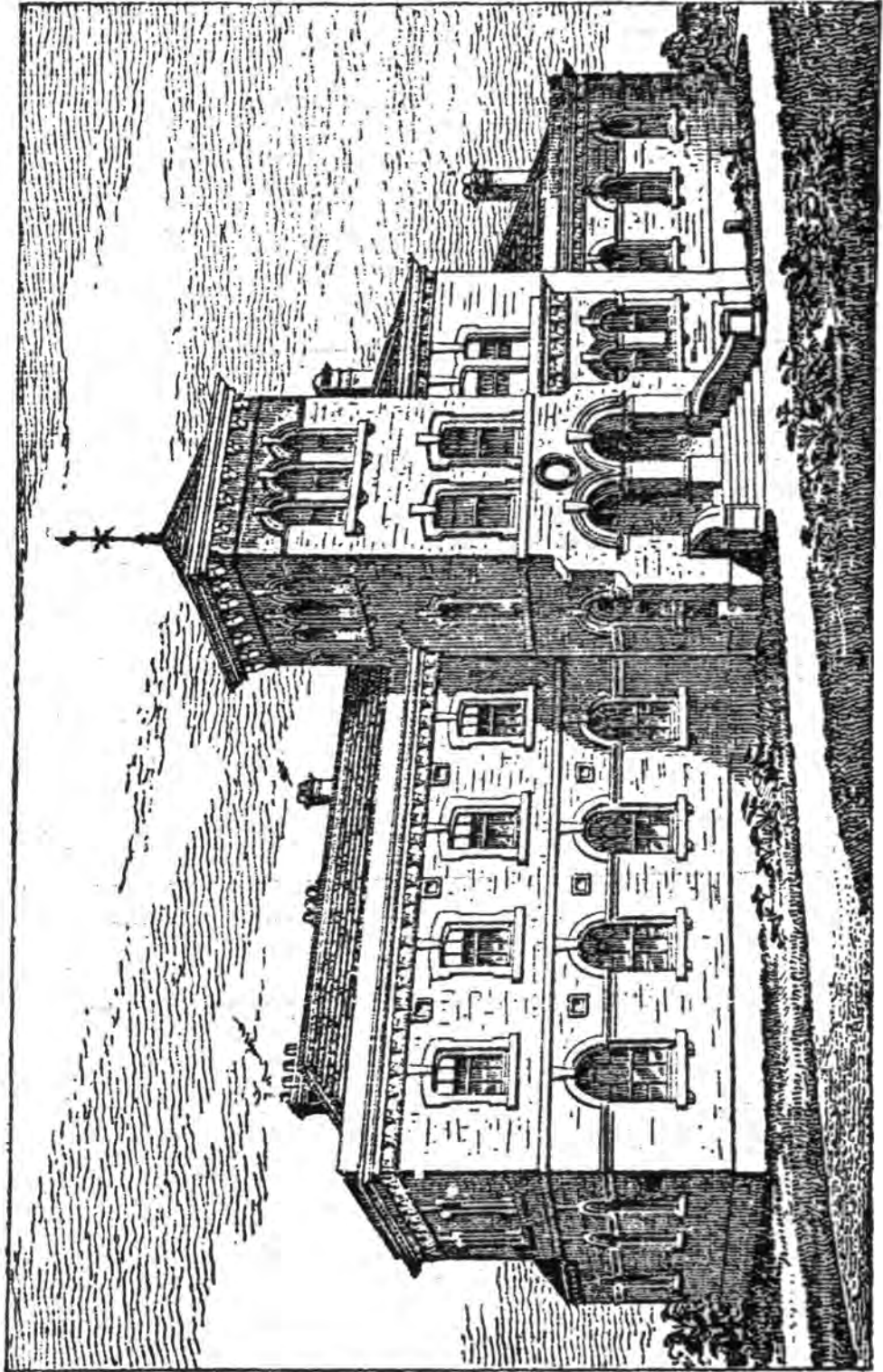
47. See Appendix 1.

48. See Appendix 1.

Plate II.

Sunderland Orphan Asylum.

Source: J. Fatterson. A Guide to Sunderland Hill,
Sunderland, 1891.



in practical seamanship ought to be employed; the cost being shared by the asylum and the B.O.T. school. The Asylum Governors refused to enter such an arrangement and some of them even complained that the B.O.T. school boys' use of the ship would shorten its life. It is hard to estimate for how long Mr. Stiles was allowed to use the ship, but in April 1863, Mr. F. Ritson complained that Stiles was not competent to teach practical seamanship, especially about the ropes. It was proposed that the asylum should employ its own seamanship instructor and on 15 May, Mr. Clark, formerly of the Royal Navy was appointed at 16 shillings a week. By the July of that year, the Governors heard that

'The training given included gun drill, laying out aloft, unfurling sails, a knowledge of ropes, knotting and splicing' (49)

Later in the year, a set of flags was obtained, so the boys could be taught the commercial code of signals.

The emphasis in the asylum's educational provision seems to have been on the practical. This was possibly due to the asylum aiming to educate boys to be crewmen, and any who became officers constituted a bonus. The other nautical schools educated boys to be future officers and not just able-bodied seamen. It would seem fair to comment that the asylum's education never reached such a high or advanced standard as that in the other nautical schools. The asylum's Byelaws did require the boys to be given a 'superior nautical education', but since there was some controversy as to whether any education of a more formal nature was given, such superior

nautical instruction must have lacked a firm foundation. On 15 September 1865, John Cameron and the other Governors were informed by Mr. J. Candlish that the boys received a 'plain rudimentary education', possibly similar to that provided in the schools of the Ragged School Union in London. Mr. Cameron had been prompted to enquire because he had heard that some of the inmates' mothers believed that

'no real education was given to the boys at all.' (50)

It was then decided to ask the Government Inspector to visit the school and in December 1865, Rev. C. W. King reported that he had examined the boys and the result was most creditable. He did, however, suggest that geography should be added to the school's curriculum, as it would be most useful for mariners. His proposal was acted upon and in subsequent years, the boys seem to have maintained favourable progress. In his report for 1888, Mr. F. W. Bryers, Clerk to the Sunderland School Board, wrote that the asylum boys were on a par, educationally, with those attending the local board schools. It seems that the Governors had been wise to reject Mr. Reed's move, in 1881, to have the orphans sent to the Grey School, where he believed they would have received a better education. In the asylum, one teacher had to teach all the subjects in the different standards, but this problem was overcome when an assistant master was employed at various times. Another reason for Mr. Reed's motion was that the Sunderland Orphan Asylum Act required the Governors to pay

£30 per annum to the Grey School from the asylum funds for the free education of forty two children. Such a number had never been admitted, which left enough room for the orphan children.

With such satisfactory reports, it was soon decided to expand the asylum's curriculum to include music when a harmonium was purchased in the 1860s. A fife and drum band was established and later in the 1870s there was a brass band; possibly a rival to the Training Ship 'Wellesley's' band (51). From July 1880, attempts were made to teach the boys swimming, but this was not a novel scheme, for Haswell had taken the boys of the Royal Jubilee School to Tynemouth to swim in the sea. The Training Ship 'Wellesley' also had a swimming bath, as did many other training ships, for it was generally agreed that swimming was an important skill for a sailor to know. Furthermore, later in 1880, the asylum boys were allowed to go each Saturday afternoon to practise with the Life Brigade's Rocket Apparatus.

Once Mr. and Mrs. King (52) had been appointed in 1881, it seems that the boys were taught tailoring and carried out repairs to clothes. Such skills had been taught on the Industrial School ship 'Wellesley' (53) for many years and their importance to mariners cannot be underestimated. Dana in his Two Years Before the Mast wrote that Sunday was the day when seamen did their laundry and clothes repairs. Any boy who was unable to sew was at a disadvantage and would

51. See Chapter 3.

52. See Appendix I.

53. See Chapter 3.

soon be reduced to wearing rags. He recalls one occasion when the ship was soon to enter colder waters:

'As soon as supper was over, we seated ourselves on our chests round the lamp... and each one went to work in his own way, some making hats, other trousers, others jackets... The boys who could not sew well enough to make their own clothes, laid up grass into sinnet for the men, who sewed for them in return... I also sewed and covered a tarpaulin hat... and made myself a complete suit of flannel underclothing for bad weather. Those who had no south-wester caps made them and several of the crew made themselves... jackets and trousers, lined with flannel.' (54)

About the same time as sewing was introduced into the Orphan Asylum's curriculum, the Ladies Committee also wanted a spare room to be used as a joinery shop, so that the boys could be 'employed in their leisure time' (55). Leinster-Mackay in his book The Rise of the English Preparatory School argues that the real reason for including such subjects was that they combatted the practice of masturbation. Another reason was perhaps that the skills of a carpenter or joiner were useful on board any ship. All of the above extensions seem to have had a practical bias, but in 1889, Mr. King added geometry and drawing to the school timetable. The geometry was to include the use of the compass and scales, and in his opinion, it would be of considerable benefit to the boys. He probably thought that the introduction of such subjects was the asylum's contribution to the debate that was

54. R. H. Dana. Two Years Before the Mast 1840. p.197.

55. Sunderland Daily Echo 13 October 1881.

taking place about technical education.

The provision of technical education did not guarantee that the boys would later go to sea and this appears to have been a national problem. In 1857, Playfair found that only one of the fifteen boys attending Newcastle Trinity House School wished to go to sea. The figures for subsequent years and those for the Sunderland Board of Trade Navigation School are shown in the table below:

Table VIII Number of Boys under Instruction, at Newcastle Trinity House School and Sunderland Board of Trade Navigation School, and going to sea.

<u>Year</u>	<u>sunderland</u>		<u>Newcastle</u>	
	<u>under instruction</u>	<u>No. going to sea</u>	<u>under instruction</u>	<u>No. going to sea</u>
1858	101	16	80	6
1859	121	46	91	15
1860	125	51	92	5
1861	141	69	80	5
1862	125	56	64	3
1863	-	-	66	5

source: Reports of the Science and Art Department 1858-1862.

what the figures do not show is the number of pupils who went to sea later, but Kyder commented that boys who do not wish, or their parents did not wish them, to go to sea, should be discouraged from attending as they occupied the masters' attention to the disadvantage of the others.

Similar comments were made by J. F. D. Donnelly in his Report on the System of Aid to Navigation Schools, dated 24 January 1863. He wrote that

'the instruction of boys destined for the sea... is undoubtedly the most advantageous and best action of the schools. Unfortunately,... (this) class of boys is very small, and but a small proportion go to sea. In fact a large proportion have no intention of adopting a seafaring life. Much of the instruction is simply elementary... For the Science and Art Department to pay for such instruction... cannot be justified'. (56)

The changes in finance advocated by Donnelly were also to have an effect on the adult departments of the navigation schools as well and were to lead to the ultimate closure of many of the schools. (57)

The problem of persuading the boys to go to sea persisted at the Sunderland Orphan Asylum throughout the period covered by this thesis. Between 1861 and February 1863, none of the inmates evinced any desire to go to sea, so the Governors employed a seamanship instructor, who was to interest the boys in a sealife. He seems to have been successful, for on 12 June 1863, the master declared that the boys were showing a 'more decided tendency to enter upon a seafaring life.' (58) It was not until the June of the next year that two boys, Trot and Downs, were apprenticed to J. G. Ritson, a shipowner of Sunderland and an Orphan Asylum Governor. However, the

56. J. F.D. Donnelly Report on the System of Aid to Navigation Schools 1863. p.4. See also Chapters 6 & 7 for his ideas on adult nautical education.

57. See Chapter 6.

58. Sunderland Herald 12 June 1863.

problem re-appeared in 1868 when a newspaper reported that the boys could not be compelled to go to sea. The Governors felt that local owners were not aware of the institution and its educational facilities, especially its navigation and geography courses. The boys' reluctance remained and when two boys were ready to leave the asylum in February 1871, neither of them wished to be sailors. In 1886, a special committee was appointed by the Governors to find suitable jobs for the inmates who were ready to leave. It seems to have met with little success, for three years later only one of thirteen boys went to sea. It was not until 1901 that Mr. G. King was able to report that one old boy had gained a chief engineers' certificate and two had passed as chief mate. Two years later, the annual report stated that during the twenty years of King's mastership, two hundred and one boys had attended the asylum. Fifty had become boiler smiths or fitters, six had passed the marine engineer's examinations of the Board of Trade, thirty had gone to sea, some of whom had become masters and mates; several had joined the army or navy, two had become mining engineers, one had gone to India and one had become a superintendent of the Board of Trade. (59)

Sometimes, especially later in the century, the problem seems to have taken a slightly different form; that of getting boys to attend a nautical school. It was referred to by Donnelly in his report and some mention has already been made

59. Figures from Sunderland Daily Echo 22 April 1903.

of the number of boys attending the Newcastle Trinity House and Sunderland Board of Trade Navigation Schools during the years 1858 - 62. The latter seems to have been better attended than the former and the Reports of the Science and Art Department also includes the average attendance each year.

Table IX Average attendance at Sunderland and Newcastle

Schools by boys

Year	1857	1858	1859	1860	1861	1862	1863
Newcastle Trinity House.	30*	33.7	48.7	51.38	31.5	27.7	28.55
Sunderland B.O.T.		45.4	57.5	69.02	61.7	66.6	N/A.

* possibly includes adults.

Source: Reports of the Science and Art Department 1857-63.

It is possible to discern a definite downward trend at the Trinity House School and as early as February 1860, the Secretary, Mr. Gordon, wrote to Dr. N. Mcleod of the Science and Art Department that few boys attended. Ryder suggested that the school should be re-established in North Shields, but the School Committee rejected the idea. The problem seems to have continued for in 1868, Mr. Thorn complained that the boys' attendance was often very poor. By June 1869, the Trinity House Journal recorded that

'the attendance of both men and boys was the worst there has been for a very long time' (60)

60. Trinity House Letter Book. 7 June 1869.

During the Autumn, there was a short lived revival, but by the summer of 1870, there was another fall in the number of boys attending. The decline in the school was also evident in the fact that no assistant was employed in the school after 1864, when the payment of his grant was discontinued. Once Adamson had left, Thorn had to teach both the boys and the adults, a task which he found very onerous. In July 1868, he suggested to the Brethren that the Boys' School should be closed and the school turned into one for masters, mates, apprentices and engineers,

'as it would pay the Trinity House much better and (cause) less both.' (61)

His idea seems to have fallen on deaf ears, so Thorn expressed his dissatisfaction again on 19 December 1870 in a letter to the Brethren, in which he asked that

'on account of ill-health...if he may continue the Men's school and discontinue the Boys' School.' (62)

The Brethren only sympathised with him and were

'sorry he cannot attend to the tuition of the boys and must accept his resignation...if he cannot teach the boys' (63)

Thorn's main interest was in adult education and after he left Trinity House he opened his own school at North Shields. (64) No further mention is made of the Trinity House School in the Corporation's Minutes, except for a letter sent to D. Hawthood of the Newcastle Tax Office by the Secretary, W. Taylor on

61. ibid. 6 July 1868.

62. ibid. 19 December 1870.

63. ibid.

64. See Chapters 5 and 6.

19 March 1872, in which it was stated that 'no successor has been appointed since w. Thorn...resigned in consequence of ill health' (65)

The other school in the area organised by Playfair seems to have encountered similar problems, but the decline in numbers is not so evident in the figures cited in Table IX above. The events leading to its closure must be a matter of conjecture, as the records of the Sunderland Board of Trade Navigation School have been lost. Using the number of teachers as a guide to the numbers attending, we know that Stiles had four assistants in 1859, but by 1870, there was no mention in the advertisements for the school of any assistants being employed, as only George Gibson (66) and John Fish are listed as masters. In the following year, George Gibson seems to have been the only master, and he was to remain so until the last advertisement for the school appeared in Reed's Tide Tables for 1879. The advertisement in the 1880 Tide Tables in Sunderland Library is missing and no other copy of that year's edition has been traced. The advertisement for 1881 makes no mention of the Board of Trade, so by that date, the school must have been under private ownership. Gibson still ran a boys' department in his school, but he had moved from 9 to 19 Cousin Street - further evidence of his severance from the Board of Trade. He had also widened the curriculum, as he had started to educate boys for the civil service and other examinations. This was, perhaps,

65. Trinity House Letter Book, 1870-74. 19 March 1872.

66. see Chapters 5 and 6.

further evidence that the number of boys in the school had declined and that he needed to attract new clients.

The failure to attract boys also ended the experimental Marine School Boys' Department of 1874 and brought about the closure of the department established in 1886. The Governors had tried to encourage boys to attend by offering free tuition, books, stationery and instruments for the three year course. The boys were also to receive

'an outfit of books or instruments after they have served one year of apprenticeship at sea' (67)

At first, the advertisements seem to have been successful, as by 1890, the number of pupils attending had increased to the extent that it was necessary to employ another master. The exact date of the appointment of Mr. Huntley is unknown, but he resigned in September 1891, to be replaced by Mr. Carter. About the same time, the school started its own system of awarding certificates. Boys who had attended for a year and passed the school examination were awarded a second class Marine School Certificate. After a further session of study, they would obtain a first class Marine School Certificate, which must have been quite an incentive and it was established in addition to the usual prizes of books and instruments. Boys, who had attended and held the certificates, were promised preferential treatment when firms such as Kunciman's, Dunlop of Glasgow, Edwards, and Brigham and Cowan awarded apprenticeships.

67. Newcastle Daily Chronicle September 1886. Marine and Technical College Library Scrapbook. South Shields Local History Library.

What is interesting about the Marine School Certificate system is that the boys' course seems to have been reduced to two years. The reason for this was probably that it was hard to persuade the boys to stay for a lengthy course when they could be earning money to help their families. Getting boys to remain in the navigation schools had always been a problem, for in his report for 1858 on the Board of Trade School in Sunderland, A.P. Ryder found that boys only remained, usually, from one week to eight months. His report for the following year showed that the average length of attendance was 0.7 years and at Newcastle, 1.2 years. By 1861, the average time in the Newcastle School was 1.05 years and in Sunderland 0.11 years. The final year for which figures are available is 1862 and these show that the average attendance at Newcastle was 1.4 years and at Sunderland 0.1 years; (68) so much for Ryder's hopes of establishing three year courses! The schools were unpopular because seamen, parents and shipowners doubted the value of theoretical education. Also the parents saw them as secular schools competing with denominational schools for the education of boys. When shown that they were purely science schools established to teach science, the parents' attitudes changed somewhat.

As the years passed, the Marine School of South Shields found the problem of finding boys became acute and in January 1895, the headmaster, Mr. A. Flagg, reported that only seven boys were in attendance with

68. Figures from the Reports of the Science and Art Department 1858-62.

'little prospect of an increase, on the contrary, of a decrease when the already small class leave for work as apprentices' (69)

As a result, the Governors asked the head to make a special report on the Boys' Department, which he presented on 31 July 1895. He wrote that one hundred and twenty five boys had entered the school since 1886; fifty five pupils had gone to sea and fifty had been apprenticed to marine engineering firms. Flagg believed that the school had been successful in terms of the number of passes in the Science and Art Department Examinations and that such courses had been of assistance to the pupils when they later returned to the Seaman's Department to study for their Board of Trade Certificates. He attributed the failure of the school to attract pupils to a number of causes.

First of all, he attacked the parents for being old fashioned in believing that the best course was for children to go to sea and attend school later (70). Secondly, the returns for the Science and Art Department Examinations showed that there was little demand, nationally, for courses in navigation and nautical astronomy. The Liverpool Nautical College, which had copied the South Shields scheme, had encountered similar problems;

'There were only twelve boys present last January and twenty three admitted altogether since the institution opened in 1892' (71)

69. Marine School Governors' Minute Book, 1891-1907.
30 January 1895.

70. An attitude mentioned above.

71. ibid. 31 July 1895.

Furthermore, Hull Trinity House School, the only other institution, educating boys in navigation, offered inducements to persuade them to attend. The boys were clothed, 'given £5 each on leaving for the sea, and £1 a year during apprenticeship, while extra sums were given to specially deserving boys'. (72) According to the School Committee Minute Book of Trinity House, Newcastle, the Brethren considered a similar scheme for the upper school, whereby each student would be furnished with a suit of clothes. It has not been possible to ascertain whether the plan was put into operation, but we can be sure that the Marine School of South Shields could not afford such inducements, for it had to abandon free education for men in 1893 owing to a fall in the income from its endowment. A fee of one guinea for life membership was introduced and had to be paid by each seaman on entering the school.

The Boys' Department was also handicapped by the fact that it had to compete for pupils with other schools in the neighbourhood. Westoe Higher Grade School, South Shields had an 'organised' science school and St. John's Higher Grade School, South Shields also offered science courses. It seems that the boys preferred to remain in the Higher Grade schools until the age of fifteen, when they could enter into an apprenticeship. Such schools received generous grants from

72. ibid.

the Science and Art Department

'which tended to displace voluntary work, not only at Shields, but throughout the country... Altogether the competition is too great to allow us to continue' (73)

The Governors set up a special committee which recommended in September 1895, that more advertisements should be placed in the newspapers and that the South Shields School Board be approached to ask it to send boys who intended to go to sea, and had passed Standard VII in the Higher Grade School, to the Boys' Department. The Committee also suggested that a fee of ninepence a week be charged, instead of £2 per term, thus reverting to Cay's recommended fee of ninepence or a shilling a week; a suggestion which he made to the Royal Commission on the Loss of Life at Sea. Such fees were no greater than those paid to attend the Board Schools. Both Newcastle Trinity House School, and the Sunderland Board of Trade Navigation School had charged apprentices and boys sixpence a week forty years earlier. Even then it was realized that the parents could not afford such fees, so to solve the problem in Sunderland, it was hoped the local Seaman's Home and the Sunderland Orphan Asylum would fund scholarships to aid the less well off, but it has not been possible to ascertain whether any such scholarships were established. It seems unlikely, as many local Sunderland shipowners were uninterested in financing educational institutions for seamen, while the Sunderland Orphan Asylum

73. ibid.

would have been unable to do so because of its mounting debts. By 1862, only £100 had been raised by public subscription, which meant that only three boys were to be elected, even though there was room for another thirty. The Sunderland Herald's call for increased subscriptions, and donations met with some success and there were even attempts to stop the Bishop of Durham receiving the money he was due according to the agreement made with the Governors. Later, it was decided to appoint a collector to visit subscribers, with the result that enough money was raised for the asylum to be in credit at the bank in the early 1870 s. However, as the old subscribers died, they were not replaced and the debts rose once again. Further appeals were made in the Sunderland Daily Echo and the Sunderland Weekly Echo and Times, but they seem to have been unsuccessful. It was also hoped to obtain money from the George Hudson Trust, but this proved a failure as well, so plans for an extension to the asylum had to be postponed. By November 1888, the Orphan Asylum owed £1254 14s. 6d, which was paid off due to the efforts of Mrs. J Laing, the wife of one of the Governors. Three years later, the asylum was £256 18s. 4d. in credit, but the debts began to increase again and by November 1902, £216 0s. 2d. was due to the bank.

We can surmise that in the case of some of the nautical schools, the lack of scholars and fees had resulted in financial difficulties. The South Shields Marine School

Governors decided to solve their problems by terminating Mr. Carter's contract. However, due to their efforts to attract more boys, the number in the school increased to twenty pupils by February 1896, which necessitated the need to continue Mr. Carter's employment and when he resigned in 1897, he was replaced by Mr. Eddon. The revival in numbers was only temporary, for in 1899, the problem of attracting boys recurred. The School Committee wrote to the heads of the local elementary schools, who replied that

'few boys leave elementary school with the declared intention of going to sea' (74)

This was a fact which was substantiated by John Gillie, the retired Local Marine Board examiner, who estimated that

'only one and a quarter per cent of boys leaving elementary schools in South Shields' (75)

had such an intention and he attributed the lack of interest to the fact that better wages were paid for shore jobs and that marine apprentices were being paid the same wages as their predecessors of forty or fifty years before.

At the School Committee meeting of February 1901, the motion was passed that while they were not prepared to close the Boys' Department immediately, the question would be discussed at the next meeting of the Governors. They resolved

'the school should be closed at the end of June unless twelve boys be entered as students for the succeeding year.' (76)

74. ibid. 9 February 1899.

75. Shields Gazette 4 April 1899.

76. South Shields Marine School Governors' Minute Book, 1891-1907. 13 June 1901.

In the event, eleven pupils promised to attend, so it was decided to continue the Boys' Department.

Mr. McMillan and his replacement, Mr. Smith, were both employed on the condition that they would be dismissed if the department closed, so even at the end of the century, being a nautical teacher was still not a secure occupation. The Governors of the Marine School terminated Mr. Smith's contract on 23 July 1902, after they had received a complaint about him. Once Smith had left, the boys were taught by Mr. A. Flagg, for the School Committee's report for January 1903 stated that he taught eight boys.

In October 1902, Flagg presented a plan to the Governors suggesting that the afternoon lectures for seamen should be open to boys intending to go to sea. This had been the practice at Leith Nautical Academy for some time, and perhaps Flagg considered it to be an alternative to the Boys' School. The last mention of the department in the Governors' Minutes was in the head's report given on 6 August 1903, in which he wrote that three boys were being taught engineering and seven, navigation in separate classes. However, in the head's report for February 1904, no mention is made of the Boys' Department, so it seems fair to conclude that it must have closed during the winter of 1903/4. Further evidence for such a view is provided in a letter from Bithel-Jones (the head from 1903), to the Governors written later in that year, in which he refers only to the Navigation, Engineering and Correspondence Departments. There is no Governors' Minute as to when the Boys' Department actually closed, it just ceased to be mentioned - the same occurred in the Journals of Trinity House, Newcastle, with regards to their school. The Marine School Admission

Register, 1861-1906 offers no assistance in determining the date of closure. It lists the last admissions as

No.226. William Thompson. migrated to Trimdon Colliery, April 2 1902. Entered the school 1900.

No.227. Edward Christopher Warrant. apprenticed to Palmers, September 1901. Entered school 1900. (77)

There must have been later admissions, but these must have been listed elsewhere and the records subsequently mislaid.

The lack of numbers and financial difficulties had led to the closure of three nautical schools in the area. The Royal Jubilee School also seems to have had financial problems, which were exacerbated during the 1860s, when the school had to abandon free education and make a charge of one penny a week, later two pence, to supplement the money from subscribers. To solve the problem, the school also sought government assistance in the form of grants, which were payable on proof of satisfactory attendance and competent performance after an examination by one of Her Majesty's Inspectors. Each child, if successful, could earn the school 6s. 6d. or 12s. depending on its age, while the penalties for unsatisfactory attendance was 4s. for each child and for unsatisfactory performance in reading, writing and arithmetic, 2s. 8d. per subject. Pupils were tested on a higher 'standard' each year, with a narrowly defined syllabus laid down by the Education Department. Generally, the system of grants imposed by the 1862 Revised Code resulted in the narrowing of the curriculum as only

77. Marine School Admissions Register, 1861 - 1906.
Volume 1.

certain subjects earned grants, hence it did not pay to teach others.

'The ridiculously inadequate three 'r's were elevated into a school Trinity outside of which there must be devotion' (78)

Haswell believed that the new ways were retrogressive, for he had to discontinue many of the subjects which he had introduced. His

'flexible scheme which had successfully equipped many thousands of boys for the battle of life was shackled and stifled' (79)

At the age of sixty three, Haswell was forced to sit an examination to assess his competency to conduct a school which he had ran for many years. The only advantage to result from obtaining a grant was that the school could afford to employ assistant masters. No doubt as the Revised Code was relaxed, Haswell was able to re-introduce some of the excluded subjects. From 1867, further grants were offered for mathematics, geography and grammar. Later in 1875, class subject grants were introduced, which added elementary science to the board school curriculum, but as Wardle in his English Popular Education 1780-1970 comments, such grants were only payable to senior pupils and such advanced work was 'definitely subordinate to the school's main work of teaching the rudiments' (80). The Tynemouth School Board assumed responsibility

78. Haswell. op.cit. p.273.

79. ibid. p.274.

80. D. Wardle English Popular Education 1780-1970 1970.p.68.

for the School in 1880, six years before Haswell's retirement. There can be little doubt that Haswell had helped many boys in their early careers before they went to sea, and a number of them rose to be officers. G. Haswell in The Maister recounts the story of the occasion when eight captains, whose vessels were ice bound in the Baltic, met for Christmas lunch. They discovered that they had all attended the Royal Jubilee School, North Shields, and had received their first lesson in navigation from Thomas Haswell. Perhaps the reason why so many mariners, who were educated in the 1840s had attended Haswell's school, was that he was one of the first to offer such a course, and Shields was an important port. It also has to be remembered that even though some of the private schools would have taught navigation, they charged their students fees. (81)

By 1904, all the navigation schools for boys had closed and only the Sunderland Orphan Asylum remained. The need for a special education for seamen had been recognised;

'it is certain that the readiest way to produce a good class of men is to form...one of good boys. If boys are well trained, able seamen will come from them... If we wish to maintain amongst us a large population of thoroughly good seafaring men, we must turn our attention to the early training of boys...very little, if anything, is done upon a proper scale (by the Government) for the education of young sailor lads...We build sailors' homes, but we do not provide sailors' schools' (82)

The Government had failed to act and private provision was

81. See Chapter 5.

82. N.M. Vol. XXXI.. 1862, p.367.

shortlived. Boys from the north east, who wished to become officers in the mercantile marine, found no local institution willing to train and educate them, thus forcing them to travel to training ships such as 'Conway' and 'Worcester'. There was one local training ship, the 'Wellesley', but this was not for boys from well-to-do homes; it educated boys who were committed to its care by magistrates.

· CHAPTER 3.

The Education of Boys on School Ships in the late Nineteenth Century.

As an alternative to shore nautical schools, the 1836 Select Committee suggested the establishment of training ships. The idea was to be repeated in 1852 and 1859 (1) by committees considering the question of manning the Royal Navy. Their reports aroused some public interest and a number of pamphlets, including those by Admiral F. W. Grey, were written on the subject. Grey wanted the training of boys to be better organised and schoolmasters to be employed on Naval ships. He even suggested that before going to a training ship at the age of fourteen, the boys should spend two years in a shore school. Once again there was little action on the part of the Government because of the costs involved, so it was left to philanthropists to make provision. Some of these individuals may have acted out of a patriotic desire to provide boys for the Royal Navy, but some, no doubt, acted out of self interest, as they wanted boys for their own ships.

To the philanthropist, the solution was obvious, for in the streets there were large numbers of ragged boys who would have to be persuaded to go to sea. Even in 1783, Hanway in his Proposals for County Naval Free Schools had written that

'our chief political sin is keeping our children in idleness...orphans are in danger of becoming burthensome...a pest to society...(children) kept in a state of beggary...are a nursery of prostitutes and thieves' (2)

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1. See Report of the Commissioners appointed to enquire into the best means of manning the Navy 1859. vi.2469. p.xi.
 2. J. Hanway. Abstract of the Proposal for County Naval Free Schools 1783. pp.xvi and xxiv.

With the aim of saving such children from a life of crime, many people hoped to turn them into useful citizens by providing them with a place of shelter and some industrial training. One such philanthropist was James Hall (3) of Tynemouth, whose interest had been stimulated, possibly, by the Manning Commissions and a visit to the Newcastle Industrial School. He wrote to the Admiralty asking if they would provide a vessel for use as a training ship. Their reply was that the frigate 'Diana' was available but Hall would have to pay for it to be brought up to the Tyne. On 17 January 1868, Hall held the first of a series of fund raising meetings at the Guildhall, Newcastle. However, many people felt that the Government should offer financial aid, but this was not forthcoming and the 'Diana' Training Ship Association of the River Tyne decided to wait until the Government could provide a more suitable vessel, which it was able to do, when it offered the Committee of the Thames Reformatory a replacement for their training ship the 'Cornwall'. After an interchange of names, the Tyne Committee was offered the old 'Cornwall', which was to be known as the 'Wellesley'.

Funds came in from many sources, including the Brethren of Trinity House, Newcastle and the Duke of Northumberland. The appeal seems to have touched the hearts of all classes of society as it was made on the grounds of Christian duty, for

3. See Appendix I.

'The establishment of this institution was a duty they owed to their neighbours, a duty they owed to the boys, a duty they owed to God' (4)

Similar sentiments had been expressed with regards to the Ragged School Union when usually,

'ecclesiastics of the establishment and prominent ministers of the various denominations...found it possible to unite in the work for God' (5)

However, Hall felt that it would be impossible to raise, annually, a sum sufficient to meet the costs involved, so he applied to the Home Office for the benefits for the Industrial Schools Act (1866). A favourable reply was received and the 'wellesley' was the first vessel to be so certified. There had been earlier training ships, but these had been established under several different systems. The earliest, such as the Marine Society's 'Warspite', were supported entirely by voluntary contributions and annual subscriptions. The 'Chichester' on the Thames and the 'Indefatigible' on the Mersey were also financed in a similar manner. A second class of vessels, reformatory ships, had been established under the Reformatory Act for Young Criminals. The 'Cornwall' on the Thames, the 'Akbar' and the 'Clarence', both on the Mersey, were in this category. The third class of vessels was established under the Industrial Schools Acts of 1861 and 1866. The 'Havannah' at Cardiff was first certified under

4. Shields Gazette 25 January 1868.

5. C. J. Montague. Sixty Years in waifdom or the Ragged School Movement in English History 1904, p.145.

the earlier Act and later under the 1866 Act. It accepted day free scholars as well as the destitute and homeless. The income of the industrial training ships came from private contributions, supplementary government aid and local agencies, such as poor law unions.

Like the Ragged School Union, the 'Wellesley' hoped to educate orphans, the children of the ragged migratory classes, drunks, and vagrants, and workhouse children. Most of the ship's inmates were committed to it under Section 14 and 15 of the Industrial Schools Act of 1866. (6) The first boys were received on board in August 1868, after they had been given a medical examination to ensure that they would be fit enough to withstand the rigours of a future life on board a sailing vessel. Similar arrangements existed before boys could be elected to the Sunderland Orphan Asylum. The 'Wellesley' Byelaws, which had been accepted on 13 July 1868, also required the boys to be inspected by the medical officer twice a week. In their early reports, Dr. Crease and Dr. Gowan found that many of the boys arrived on board in a very poor condition owing to the scanty nourishment and insanitary conditions under which they had been reared. (7) This problem faced all the industrial training schools and reformatory ships and led to criticisms that they were being conducted on the wrong principles for

6. See Appendix 4.

7. Ninth Annual Report of the Wellesley Training Ship 1877. p.7.

'it is a grave error to suppose that the dregs of society can be educated for a sea life. A sailor, to be worth anything, must be physically strong and healthy' (8)

To counteract this problem, the Medical Officer of the ship and Rev. S. Turner, H.M. Inspector, drew up a wholesome diet for the boys. (9) There seems to have been few complaints from the boys about the food, unlike the situation on the 'Worcester' Training Ship where food riots were a common occurrence. One can only comment that the food on the 'Wellesley' must have been adequate, for many visitors to the vessel observed that generally the boys were in good health and that there were few inmates in the sick bay. Brassey, however, doubted whether any diet was adequate to make up for the want of food during the boys' early lives.

The boys on the 'Wellesley' had to be aged between ten and fifteen years old on admission. Captain Superintendent Pocock (10) had proposed to take children as young as eight, but Rev. Turner thought that such young children were unsuitable. (11) Once they had been on board for two months, the boys could receive visitors, who had to be sober. Similar restrictions were placed on mothers visiting their off-spring in the Sunderland Orphan Asylum from 1870, as the Governors felt that their too frequent attendance weakened discipline.

8. T. Brassey. British Seamen, as described in recent Parliamentary and Official Documents 1877. p.69.

9. See Appendix 5.

10. See Appendix I.

11. P.R.O. HO45/9340/22217. Letter.6.

On the 'Wellesley', the captain had sole charge of the vessel and he was to enforce

'a strict discipline (and) endeavour to gain a salutary influence over the boys, individually, and by instilling into them Christian principles, seek to urge upon them the importance of leading a life of duty and usefulness' (12)

This was one of the most important functions of an industrial training ship and one of the reasons for keeping the number of inmates small. Rev. S. Turner in a letter dated 9 May 1873, pointed out that the greater the number of boys, the less moral influence would the staff have over them.

To ensure that the staff were working hard and the school functioning correctly, the Byelaws allowed the Captain to suspend any teacher or instructor for misconduct and made provision for the boys to be inspected each month by a different member of the committee. The subjects taught in the school were stipulated in the Byelaws and were to comprise Holy Scripture,

'reading, writing, ciphering and practical elementary geography. The teachers should be examined by the Inspector (of Industrial Schools), if he should think it necessary'. (13)

Criticisms were made of industrial training ship teachers in the Parliamentary Reports of 1884 and 1896. The qualifications of the teachers were often lower than those held by their shore colleagues, though they were often good teachers. The above rule was probably an early attempt to ensure that

12. Byelaws for the Management of the Ship 16 June 1868. Rule.2.

13. ibid. Rule 14.

competent teachers were employed, for a sound elementary education was the aim of the 'Wellesley' Committee. What, in fact, was offered was very similar to that proposed by Hanway in 1783 and available in the Sunderland Orphan Asylum and the schools of the Ragged School Union. The curriculum of the asylum and the Ragged Schools consisted of reading, writing, arithmetic, geography, singing and scripture.(14) However, the 'Wellesley' had a bias in its curriculum towards what was useful for seamen.

'The Industrial Training shall comprise nautical training, repair and making of their own clothes, bedding etc. Sailmaking and repairing, knotting and splicing.'(15)

From the beginning, it seemed that the ship was able to avoid the criticism made in the 1884 Report of the Reformatories and Industrial School Commissioners that too great an emphasis was placed on industrial training, thus sacrificing education.

The Sunderland Orphan Asylum also offered a 'superior nautical education' including the use of a model ship, but clothes making was not introduced until 1881. Boys in shore industrial schools and the Ragged Union schools were also taught tailoring, shoemaking, match-making, wood chopping and paper bag printing. It was hoped that such training would provide the pupils with a means of earning a living when they left school, but the Report of the Departmental Committee on Reformatory and Industrial Schools of 1896 drew attention to

14. See Chapter 2.

15. Byelaws op.cit. Rule 15.

every six months to promote boys from one class to another. The standard to be attained was not very high at first, boys had

'to be able to read fluently...to write correctly from dictation any ten lines from an ordinary book...to be well up in arithmetic as far as easy sums in proportion and practice. After reaching this standard no boy (was) to be retained in the school' (18)

If one considers the educational attainments of the boys on arrival, (19) it is obvious that much work was necessary to attain even such meagre standards. In the Thirteenth report of the Inspector...to visit Different Reformatory Schools attention is drawn to the fact that education would have to include an introduction to regular habits and discipline as

'most of the boys were very ignorant on joining the ship' (20)

Of the one hundred and eighty five admissions during 1868-9, ninety four could not read, one hundred and four could not write and one hundred were innumerate. Even after the establishment of Board schools to supplement the existing voluntary schools, there seems to have been little or no improvement. In 1875, for instance, fifty boys were received of whom, forty nine could neither read, write nor do arithmetic and five years later, ninety three of the one hundred and seventeen boys were illiterate and innumerate. The only year

18. Second Annual Report January 1870. p.19.

19. See Appendix 8.

20. Thirteenth report of the Inspector appointed to visit the different reformatory schools 1870. p.34.

for which figures exist for the Sunderland Orphan Asylum is 1896, when Mr. George King recorded that fifteen boys had been admitted, of whom one third did not know the alphabet,

'three only were placed in Standard I, two in Standard II, the remainder in Standard III and upwards' (21)

A comparison can be made with the boys who entered the 'Wellesley' Green's Home during the same year. Fifteen boys were admitted, of whom only two could read, one could write well and only one could do arithmetic with ease. The rest had little or no skills in the subjects in question. (22)

Such figures and those for other years show that illiteracy and innumeracy were still common and must cast doubt on the value of legislation enforcing compulsory school attendance. Sandon's Education Act of 1876 had declared it a parent's duty to ensure that a child was educated in reading, writing and arithmetic. The Act implied compulsory attendance, but many parents ignored their duty, which resulted in further legislation in 1880. It has to be remembered that after 1876, industrial schools were used as depositories for children whose parents had been taken to court and still failed to comply with the magistrate's attendance order. Around this time, the Committee of the 'Wellesley' requested an increase in the number of 300 allowed on board, possibly to accommodate persistent truants. The proposal was refused because there were other schools available in Newcastle,

21. Sunderland Daily Echo 17 March 1896. King was the Master of the Orphan Asylum.

22. See Appendix 8 for full details.

Sunderland and Gateshead. It was also considered unhealthy to have large numbers of children residing in a restricted place such as a ship.

To encourage the 'wellesley' boys in their studies, prizes were offered for proficiency in the various nautical skills, the school subjects and swimming. There was even an annual prize, the Mather Silver Medal, for the boy who showed the qualities of a good sailor. The medal was awarded after a secret poll had been held amongst the boys, and this method of making an award seems to have been similar to that used for the Queen's Gold Medal on the 'worcester' and 'Conway'.

Soon favourable reports were being received about the education on the ship, but in the 1890s, Her Majesty's Inspector Mr. Legge noted that the boys were easily distracted from their work and showed a lack of concentration. Of course, it has to be remembered that those boys, who refused to conform or co-operate could be sent to a reformatory where the educational standards were lower, so the vessel did not educate the most disruptive.

It was generally agreed that the boys received 'an education as thorough as that given in our schools on shore', (23) so it was decided to extend the ship's curriculum to include history and geography. During 1882, Lieutenant G. Deverell (24) started a navigation class for the older boys after the Science and Art Department recognised his Lieutenant's

23. Thirteenth Annual Report June 1881. p.11.

24. See Appendix 1.

Commission in the Royal Navy as a teaching qualification, which meant that the school could earn grants from that department. Drawing and nautical astronomy were also introduced, but as in the case of the navigation classes, attendance was voluntary and the instruction given outside school hours. Such subjects had been an important aspect of the curriculum of the shore nautical schools (25) and it is interesting that we can discern a difference here. The shore schools, such as the South Shields Marine School, educated the boys to be officers, while the industrial training ships were educating them to be ordinary and able-bodied seamen. As time passed, it must have become obvious that some of the 'Wellesley' boys would rise to become officers, once they had been given some basic education and nautical training. Dr. Hooppell was aware of this and in his capacity as headmaster of the South Shields Marine School, he suggested that

' a few of the very best boys will be selected every year to be trained as officers of the mercantile service. They will go into the upper school to learn navigation (and) will be eligible for admission as members of the Winterbottom Nautical College, as soon as they have completed their first year at sea. In the meantime, the Headmaster will grant them free admission to all lectures in nautical science.' (26)

The boys' school work had also been helped by the teaching of seamanship, for Captain Pocock noted that

25. See Chapter 2.

26. Second Annual Report op. cit. p.13.

'the intelligence of the boys (was) being cultivated by other means than books and proves that a change to seamanship, gunnery (or) battalion drill is mental training that greatly assists the school.'(27)

Such a view was held by many involved in nautical training, but by the 1890s, many training ships were criticised on the grounds that a training in sail was somewhat dated because of the increased number of steam ships. J. Masfield in his book The Conway observed that on that vessel, the routine was based on the Royal Navy system, which was not used on merchant vessels, and that in the 1890s the ship's gear was twenty years out of date. What the old 'wellesley' boys really thought of their training is not recorded, as the carefully selected letters read at the Annual Meetings were usually complimentary. What the sail trained boys did learn was smartness and discipline, and Underhill in his Sail Training and Cadet Ships comments that the view that a training under sail was superior to one on a steam vessel prevailed into the twentieth century.

Training vessels were also criticised in 1884 Report of the Reformatory and Industrial School Commissioners for not having playing fields and ignoring the boys' physical education. The boys mainly got exercise when swimming, climbing the rigging or rowing, as there were no other organised games. Little attention seems to have been paid to physical education in the shore nautical schools either, and in the Sunderland Orphan Asylum, the boys were first presented

27. Eleventh Annual Report June 1880. p.10.



Plate III.

Industrial School Ship 'Wellesley'.

By kind permission of the Local History Library,
South Shields Central Library.



with a football in 1875. On the 'Conway', there was no football, only cricket or athletics and no games master was employed. Rugby football was not introduced until 1903, although there had been a sports day for several years. There had been a similar event on the 'Worcester' as early as 1882 and in that year the Committee attempted to purchase a sports field. The second 'Worcester' had a gymnasium in the former engine room, while on the 'Mercury', Beatrice Holm Fry included boxing and swimming in the curriculum.

It was Commander Deverell, the 'Wellesley's' second captain, who was eager that his pupils should go ashore for exercise, as he was aware that games were an essential part of a good education. In 1882, he and W. Inglis, H. M. Inspector of 'Reformatory and Industrial' Schools, began a campaign for a proper playground. Within a year they had been successful and when the vessel moved to new moorings near the harbour mouth, it was possible to hire a field from Mr. Hutchinson of Tynemouth. In some ways, the Committee was in advance of government thinking, for it was not until 1896, when the Departmental Committee emphasised the desirability of having such a facility.

The 'Wellesley' also led the way with the introduction of nautical cookery classes. In October 1890, the London Shipmasters' Society had sent a circular to training schools suggesting that some of their boys could be trained as sea cooks, as there was a real need for good cooks. (28).

28. See Chapter I.

William Allingham wrote an article in the Nautical Magazine in 1891 in support of the idea and within a short time, classes had started in Liverpool, Glasgow and Tynemouth. Later the 'Wellesley' boys were to attend the classes organised by Miss Effie Bell in North Shields (29), but at first they were instructed by the ship's cook. The boys proved to be so capable that they won prizes when they exhibited their menus at the Exhibitions of Food and Cookery in London in 1899 and 1901.

The 'Wellesley' may have been successful with this extension to its curriculum, but it was not so successful in raising money. As early as its first Annual Meeting, the Committee had to report that the annual subscriptions had only amounted to £250, which was utterly inadequate. The financial difficulties were not eased by the 1870 Education Act, which forced many subscribers to stop their payments as they had to pay the school board rate and in 1902 James Hall wrote that

'The finances of the (Wellesley) have occasioned the Committee grave concern. The income is not sufficient to meet the expenditure and increased aid by voluntary donations and annual subscription accorded the 'Wellesley' does not compare favourably with other training ships.' (30)

Other voluntary organisations, such as the Ragged School Union had encountered similar problems, and the Sunderland Orphan Asylum also had increasing debts as some people would not contribute because they felt that the institution was

29. see Chapter 7.

30. Thirty fourth Annual Report 1902. p.7.

sectarian, caring only for Anglicans; a view repudiated by the Governors. Like the asylum, the 'Wellesley' had been the beneficiary of legacies, but as the old subscribers died, new ones did not replace them. The problem of raising funds from voluntary sources had worried James Hall as early as 1868, when he wrote to The Times that

'In provincial towns, with many local charities to support, the maintenance of a training ship upon voluntary contributions...is a matter of impossibility.'(31)

One method of financing the ships was proposed by T. Gray of the Board of Trade, who thought there should be a tax of 6d per registered ton on every foreign going ship not carrying apprentices. The Liverpool Committee of Shipowners in 1870 was in favour as the cost would also be borne by steam ship owners, who often employed the best seamen and did little to help with their training. However, many shipowners, including those at Sunderland, were not in favour, as they felt that the tax was an unfair imposition on commerce and that training ought to be maintained out of public funds, such as the Mercantile Navy Fund: a highly debatable point, as then all would be taxed and the benefit felt by the shipowners alone.

Financial difficulties often handicapped the 'Wellesley's' plans to improve its facilities and in 1882, H. M. Inspector urged some expenditure to bring the ship up to the same standard as some of the other vessels under inspection. Seven years earlier, the Committee had to decline the donation

31. The Times 30 November 1868.

of a house by Rev. Sidney Green of South Shields as they could not afford to fix it up. However, they had a change of heart and the house was first used as a rendezvous for old boys, but after 1885 it became a junior branch of the ship, where young boys were received and educated before transfer to the ship. Thus the Committee were able to comply with Turner's proposal of 1875 that no boy should be received on the vessel until the age of twelve. H. M. Inspector Rogers also recommended in 1885 that only boys aged over eight should be received in the junior branch. Generally, in government documents, it is possible to discern fears that boys were accepted onto training ships at too early an age. Some of the Committee, including James Hall, thought that the ship would be more efficient if it were made an adjunct of a shore school, which would mean that it would only receive boys, aged fourteen or over, who had expressed a desire to go to sea. This was similar to one of the recommendations of the 1884 Report of the Reformatory and Industrial School Commissioners which suggested that

'each training ship might be associated with a certified land school and be treated as a nautical branch...so that in sending a boy from a land school to a ship, the managers should not feel that they were transferring him to a rival establishment' (32)

However, when Hall approach^{ed} the managers of the shore establishments, he was

32. Report of the Reformatories and Industrial School Commissioners 1884. xlv. (c3870). p.xxxiv.

'met with no encouragement. If some such arrangement...could be generally carried out it would be more economical... and...more than double the number of boys (that) would pass through a training ship and that every boy will go to sea. Two years on board is all that is required... (for) technical training' (33)

As early as 1852, the Admiralty Committee on Manning had examined witnesses, including Admiral Sir. J. A. Ommaney, who believed that only older boys should be sent to training ships and seven years later, the 1859 Report contained similar ideas.

Another idea to make the 'Wellesley' more effective was to purchase a square-rigged tender, so that the boys could go on short cruises. Such a suggestion had been made by Thomas Gray of the Board of Trade in 1874 and seems to have been popular with some marine authorities, such as Captain Burney, who realised how useful a tender would be for shore schools and ships moored near to the coast. By 1896, the Departmental Committee was of an opinion that a tender was a necessity for a thorough and complete nautical education. However, when James Hall asked the Government for aid to buy a tender, he was informed that they would be unable to help, so the idea had to be given up. Later in 1886 and 1887, the 'Wellesley' Committee again considered the suggestion, but the expenses involved were still too great. The Sunderland Orphan Asylum also wanted to buy a tender, but it was unable to do so for the same reason. However, a number of training ships did buy tenders including the 'Southampton' at Hull and the

'Goliath' off Grays, Essex. The 'Formidable' of Bristol and the Clyde Industrial Training Ship purchased tenders as well. It seems that Britain lagged behind other sea-going nations in its provision of such ships. In America, an Act of Congress of June 1874 encouraged individual states to establish sea-going schools, using old ships loaned by the Navy Department. The ships were shorn of armaments, but other equipment, such as charts and books, was left on board. The New York Nautical School, St. Mary, opened in 1875 with approximately one hundred boys. Boston, Norfolk, Philadelphia, Baltimore, Seattle and Michigan all established nautical schools and some even had engineering departments.

The Scandinavian countries also realised the need for educational cruises. The Seaman's Society of Gothenburg purchased a stationary brig, 'Magnus Stenbock' in 1838 and replaced it two years later with the 'Oscar', which went on its first cruise in 1841. The intention was that the boys should receive two years' nautical training, at the end of which they would sit the second mate's examination. Four years later, the Swedish ship owner, Abraham Rydberg, left money to found a nautical school in Stockholm. The Committee of Management bought a vessel 'Carl Johnson' for use on short training cruises. The Matrozen Institute of Amsterdam had owned similar vessels, for in 1861, they purchased 'Venus' as a replacement for the 'Dordrecht'. Later in 1871, they acquired the 'Ajax', so they had no doubts as to the value of such training. The Christiana Schoolship Association

purchased their first vessel in the late 1870s, which went on its first cruise with ten cadets in 1881.

James Hall's brother, John, offered to present the 'Wellesley' with a second stationary vessel, 'The Frowbridge', in 1886, but as the Government would not certify the ship, it meant that it would have to be financed without grants. In this instance, the Committee could not entertain such a situation, as the venture would have been financially dependent on subscriptions and special efforts such as bazaars. There was possibly a limit to what could be raised by such means, and earlier in 1873 when an approach was made to the Lords of the Admiralty for a larger vessel, the offer of the 'Boscowen' had to be accepted. Originally, it had been hoped that the 'Rodney' could be used as it had room for five hundred boys, but the 'Wellesley' Committee soon realised that the costs involved would be too great for its meagre resources, and furthermore, the Government had anxieties as to whether it was healthy to have so many boys housed together. A sum of over £2000 was required to fit out the 'Boscowen' and a bazaar was duly held in April 1877, which achieved its aim. The finances of the 'Wellesley' were also helped out by the introduction of a voluntary levy on ships entering the Tyne. Each ship of one hundred tons register and over was asked to donate one shilling, which was collected at the Custom Houses in Newcastle, North Shields and South Shields. Usually between £200 and £250 was so raised each year, but

in 1891, the amount had increased to £372. 16s. 3d. Such an arrangement linked the institution's finances to the economic conditions in the country; if trade boomed all was well, but during times of depression, the 'Wellesley's' income also declined. Furthermore, the local shipowners may have donated money to the vessel, but when the Governors of the Sunderland Orphan Asylum wrote to them for donations in 1895 only three guineas was forthcoming, so their generosity could not be depended upon.

Another source of income also became available in the 1870s when the 'Wellesley' started to accept voluntary inmates, which brought in £20 for each child so received. The reports of H.M. Inspector of Reformatories and Industrial Schools contain details of the number of voluntary inmates on board. The numbers seem to fluctuate from year to year and no trend is obvious.

Table X. Voluntary Inmates on the 'Wellesley'.

Year	No of Volunteers	Year	No of Volunteers	Year	No of Volunteers	Year	No of Volunteers
1875	2	1885	30	1891	8	1898	8
1876	7	1886	3	1892	4	1899	55*
1878	9	1887	13	1893	2	1901	6
1879	5	1888	12	1894	4		
1883	9	1889	12	1896	4		
1884	11	1890	10	1897	38*		

* includes Poor Law Cases. Other years not available.

Source: Reports of H.M. Inspectors of Reformatory and Industrial Schools 1876-1902.

The fees charged by the 'Wellesley' compared favourably with those on the 'Worcester' and 'Conway'. These latter institutions were charging over fifty guineas and the parents were also expected to provide uniforms and clothes. One can conclude that only a small number of parents on Tyneside and Wearside would have been able to afford such fees. A second advantage of the 'Wellesley' taking voluntary cases was that it increased the number of inmates on board, for during the early years of its existence, the institution had difficulty in getting a full complement of boys.

At the first Annual Meeting, it was stated that the Newcastle Guardians were not eager to send boys to the vessel and in 1870, there was still room for another eighty on board. Hundreds of destitute and neglected boys were to be seen in the streets of Newcastle, especially around Manor's Station, yet the magistrates were unwilling to commit them. The situation seems to have been the same in other towns, for Rev. Sydney Turner at the inauguration of the Industrial Training Ship 'Formidable' at Bristol had commented that he

'heartily wished the magistrates of our great towns would interest themselves more in enforcing the provisions of the Act.' (34)

Often when the parents and child were taken before the magistrates, they frequently pleaded that they were unable to afford the contribution of one shilling or 1s. 6d. or 2s. required by the 1866 Act towards the maintenance of the

34. J. Hall. Paper on Training Ships 1870. p.6.

child. Some parents did not want their children to go to the 'Wellesley', as they believed the ship to be a reformatory and admission to it, a social disgrace. Some magistrates sympathized with them and would not issue a committal order. They were also of the opinion that children who had a living parent were not without proper guardianship, even if they were neglected. For the three months before the 1870 Annual Meeting, no child was received from Newcastle, so Hall wrote to the Home Office to clear up the point of disagreement and he received the reply that

If the child's parents are habitual drunkards, or of known vicious or criminal character, or tramps, if they are continually ill-using or neglect a child and are thus the cause of its wandering and destitution, and are leaving it to grow up in the habits of vice and beggary, they cannot be said to be proper guardians.' (35)

The Newcastle Magistrates were unimpressed and would not change their views. Their lack of interest forced the 'Wellesley' Committee to enter into arrangements with more distant authorities, such as the London School Board and the Guardians of the Newark Union, (36) thus saving them the cost of financing industrial schools of their own. In later years, such arrangements were to mitigate against the interest of the 'Wellesley', for in 1877, when the Committee wanted permission to assist an extra fifty boys, their request was

35. quoted in the Forty Fifth Annual Report 1913. p.4.

36. See appendix 8 for details of the areas from which boys were received.

refused on the grounds that there was already enough room on the vessel, if they had not accepted boys from outside the ship's immediate area. (37) It seems the Committee also took boys, who, technically under the 1866 Act, were not eligible to attend as they were just idle or found stone throwing and some did not even wish to go to sea with the result that the training was wasted. (38)

For three or four years, the Newcastle Magistrates persisted in their views, and one of them even compared the 'Wellesley' Committee with a gang of kidnapers. Such remarks, no doubt, did not help the situation, but by the time of the fifth Annual Meeting, they were beginning to have a change of heart. The magistrates were willing to concede that there had been a film before their eyes and during the next year, twenty of the seventy eight boys admitted came from Newcastle. Perhaps they had also become aware that if the local School Board took up the matter, it would have the initiative for under the 1870 Education Act, such boards had the power to employ paid officials to bring children before the magistrates to get an order to commit a child to an industrial school. No longer were the magistrates the victims of the sickly sentimentality which considered it a crime to separate a child from its worthless parents.

Another problem concerning the parents was to appear in

37. P.R.O. HO45/9340/22217. Letter 18.

38. See P.R.O. HO45/9340/22217. Letter 6. Rev. Turner noted in 1871, only 62 per cent of the boys discharged from 'Wellesley' went to sea.

the 1880s when parents were given the right to reclaim their offspring when they had to leave the 'Wellesley' at the age of sixteen. This problem was first mentioned by Mr. C. M. Palmer at the Annual General Meeting on 2 August 1884;

'it appears a very natural thing that they should be able to do so, but at the same time...the parents of the boys were not of that class which entitled them to receive their children.' (39)

The meeting decided that it would be best if the children were given the right to return to their parents or go straight into employment. Parents often only claimed their children because of the income which the child could earn. Sometimes, the commander was forced to return a child to its home, as, for example, during the 1887 coal trade strike when the ships were not signing on crews. No doubt many unfortunate children arrived home and were immediately tempted to return to their old ways of begging or even crime. As a solution, Mr. Hall wanted

'the managers...(to) be empowered by law to have the control of those children they send out for at least a couple of years after their terms have expired.' (40)

The 'Wellesley' did try to keep a check on its old boys by encouraging them to correspond with the captain and to get the masters of the ships on which they served to send in reports. Old boys who did well could also qualify for the Nather Prize for Good Conduct after a period at sea. The system seems to have worked well, for according to the Home

39. Northern Daily Express 2 August 1884. C.M.Palmer was a local shipowner and shipbuilder.

40. Twenty fifth Annual Report op.cit. p.40.

Office Blue Book, the 'Wellesley' had the highest percentage of boys doing well of all the industrial training ships in the country.

Many of the 'Wellesley' old boys had been employed by Hall's own shipping firm, but as the years passed it became increasingly difficult to get them berths on British sailing ships, which meant that a larger number had to be placed on foreign vessels. A scandal broke in the local papers in October 1896 when Mr. James Aydon drew attention to the fact that one boy had been placed on a Russian ship and that there was no other English seamen on board. Also,

'The boy subsisted on food totally unfit for an English lad... Surely this is... wrong. Is it an isolated case or are those 'Wellesley' boys regularly shipped away on small foreign vessels?' (41)

In reply, Captain Baynham (42) admitted that the boy in question, William Sutherland, was not the first boy to have been shipped on a foreign vessel. Several had been signed on Norwegian and Russian vessels, and were all well treated. Foreign vessels had to be used due to the large numbers of boys needing berths, and a period on a foreign sailing ship was thought preferable to any time spent on a British steamer. Anyway, owners of steam ships did not want apprentices only trained men, and it was not until the end of the century that steamship owners fulfilled their patriotic duty by signing apprentices.

41. Daily Chronicle 13 October 1896.

42. See Appendix I.

It was also during this period that the already small number of boys from industrial training ships admitted into the Royal Navy, diminished further. The main reason for this was that the boys had not grown enough to meet the Navy's medical standards and that very few were required for the Navy bands. Between July 1888 and June 1889, only one boy was able to gain admission to the Navy from the 'Wellesley'. Earlier in the decade, the Lords of the Admiralty had requested that more boys should be sent to the Royal Navy from industrial schools, but as the years passed, a feeling developed that their Lordships were prejudiced against such boys, as they usually found some reason for rejecting them. Deverell demanded in 1883 that the Admiralty should set down more definite rules governing admission, but his requests were ignored. Even those who wanted to join the Royal Navy Reserve encountered difficulties, as one of the rules required entrants to be at least four feet ten inches in height by the age of fourteen. Few on the 'Wellesley' reached that requirement, as Baynham found in 1893, when all of the 208 boys examined were found to be less than four feet nine inches tall. This was a direct result of the treatment the boys had received during their lives before committal to the 'Wellesley'.

By 1887, it had become so difficult to find jobs for the boys that James Hall even thought of sending some of them to the colonies to find work. In fact, some of the inmates from Hall's Whitley Village Homes for Destitute Girls went to Canada. However, the scheme had to be abandoned, as the

Government and Canadian Commissioners would not give it financial aid. Some years earlier in the 1850s, scholars from the schools of the Ragged School Union had been sent to the colonies after Lord Salisbury had obtained a Parliamentary Grant. Perhaps it was just as well that the 'Wellesley' did not adopt the scheme, as there could have been a storm of protest at the thought of children being separated from their parents. Later James Hall thought of another solution, that of establishing depots at Plymouth or Portsmouth where every boy from an industrial school ship could be sent once he had attained the age of sixteen. They would then be trained on a sea-going Navy brig for a few months. Hall wrote that

'I cannot see any objection could be made by our public authorities to this suggestion, for whether a boy entered the Royal Navy direct or joined the Naval Reserve or the Mercantile Marine, his service, in case of war would always be forthcoming and the better he was trained the more valuable his services would be to the nation.' (43)

We can discern that he envisaged closer links between the Royal and Mercantile Navies; an ideal which had been suggested many times in the middle of the nineteenth century.

There were two other inter-connected problems, which affected the 'Wellesley' in the 1890s; one concerned punishments, the other religion. The founding of the institution had provoked no religious controversy, a factor which had plagued elementary education throughout the nineteenth century and continued to do so during the early twentieth century. As we have seen with respect to the

43. Twenty Fifth Annual Report op.cit. p.41.

Ragged School Union, religious difficulties could be overcome when the fight was against poverty. All religious denominations had contributed to the 'Wellesley', but at the Annual Meeting in 1889, Canon Brutton of North Shields enquired if it was true that some of the Church of England boys had been taken to the Presbyterian Church in North Shields. James Hall refused to be drawn into the controversy, but the issue was raised again the next year when Canon Bailey asked if there had been any changes in the regulations by which the ship was governed and whether there had been a request from the Secretary of State for new regulations. James Hall replied that the regulations were unchanged, but the Government had requested all industrial schools to submit regulations which were to be based on a Home Office Scheme. The 'Wellesley's' new rules had been submitted and approved by the Secretary of State, but the Bishop of Durham found that they did not include arrangements for the appointment of new trustees when the existing ones died. He also argued that the new rules were invalid because they had not been approved at an annual or special meeting of the Governors. It was finally decided to hold a special meeting on 29 December 1890 and at that meeting, Dr. Wilberforce, the Bishop of Newcastle, pointed out that the Government was concerned with only the discipline on board training ships and the provision of recreational periods, not religious matters. However, the new rules, it was claimed, had changed entirely the ship's constitution, for the 'Wellesley' was no longer a Church of England institution. The Rules of 1868 clearly stated that

'the services of the Church of England are to be...used.' (44)

Bailey thought that the 'wellesley' was an Anglican institution with a

'liberal conscience clause' (45)

but when the new rules were examined the key phrase quoted above had been omitted. The Bishop of Durham believed that the new rules should be rejected and the old ones re-instated with only rules concerning punishments and recreation being altered. Hall felt that the Government was unlikely to sanction such a course of action or any further alterations to the rules. The next meeting was to take place on 3 April 1891 and in the meantime a fierce sectarian debate took place in the local newspapers. As time passed, some people began to feel that

'the present bigotry which such...sentiments display were very unworthy of the present advanced age' (46)

and that it would be best if the vessel was non-sectarian.

At the April meeting, Hall read the new rules which required the boys to be given religious instruction according to the parents' desires. He also mentioned the fact that if they were to establish a training vessel in 1891, they would have to accept the Government's rules, unless it was entirely funded by the Church of England. The matter was further complicated by the fact that the Rev. Bailey, having

44. Rules and regulations for the Management of the ship June 1868. p.5.

45. Daily Chronicle 3 January 1891.

46. Shields Daily News 8 January 1901.

been allowed to conduct services on the vessel, claimed that he was the chaplain. This the Committee denied, and they refused to appoint him to the post, which resulted in the Bishop of Newcastle trying to force one on them. This brought a denial from the Bishop, and he emphasised that he only wanted each child to be educated according to the parents' wishes. If, however, the parents' wishes could not be ascertained, he wanted the child to be educated in the doctrines of the national church. Mr. J. D. Milburn then declared

'Many of us...never expected for a moment that it was to become a cockpit for any religious wrangle. There are very few training ships in this country...We want good sailors and this discussion is not one that will edify the minds of the boys. Therefore, I think we ought to bring it to a close' (47)

A vote at the close of the meeting accepted the Government's rules, but the religious controversy continued for the Home Secretary wanted all denominations to be treated equally, which would have meant that each non-conformist boy would have to be taken to the services of the sect of his parent's choice. There were, at that time, seven denominational bodies in North Shields alone and there was not enough staff to supervise the boys properly if they went in separate groups to church. The non-conformist ministers agreed that they would take it in turns to give religious instruction on the vessel and then on Sundays, the boys would attend places of worship in monthly rotation. In the Green's Home, there was only one member of staff, so all the boys, except the Roman

47. W. Hayward. James Hall of Tynemouth 1896. Volume 2. p.123.

Catholics, went to the Anglican Church. Such an arrangement conflicted with the Home Secretary's wishes and in a letter dated 2 December 1891, (48) he stated that if changes were not made, the Green's Home would lose the government grant. A compromise was reached whereby the same arrangements were introduced as applied on the vessel.

The religious controversy may have taken prominence, but there was another concurrent issue, that of the revision of the rules concerning punishments. The Byelaws permitted the captain to punish the boys by the deprivation of privileges, solitary confinement, partial stoppage of rations or corporal punishment. The number of strokes of the birch was not to exceed eighteen, except in extreme cases, when twenty four could be given. It was a fear of excessive punishments which led the Government to require a clause restricting corporal and irregular punishments to be introduced. The use of irregular punishments had been noted in the 1884 report of the reformatories and Industrial School Commissioners, but no institution was named. However, in May 1891, Admiral Field, Member for Eastbourne, asked questions in the House of Commons about the punishments used on the 'Wellesley' and whether they were in accordance with the rules. (49) The Government was of the opinion that

'wherever there is an excess of such punishment there is some defect in the moral influence brought to bear upon the boys' (50)

48. See P.R.O. HO45/9840/B10830. Letter 26.

49. Hansard 3rd Series Vol. CCCLIII Column 266.

50. Daily Chronicle 30 December 1890.

Some of the 'Wellesley' captains had devised other methods of punishment, including Pocock who introduced a system of good and bad marks for behaviour. However, on 27 January 1891, the Shields Gazette published an article which referred to the increasing number of boys absconding. During the three years before H. D. Kyder's (51) appointment as Captain only two boys absconded on average each year, but in 1890, fifty seven had deserted (52) and there was also a mutiny. The 'Wellesley' had not been the only vessel to experience difficulties, for the boys on the industrial training ship 'Clarence' at Liverpool had set their ship on fire because they had been badly treated by their instructors. It seems that Kyder had allowed his officers to carry swagger sticks and their use was not recorded in the punishment book. Kyder denied the charge, but the Shields Gazette was of the opinion that their too frequent use had produced a spirit of revenge. The article also claimed that Kyder had maintained too vigorous a discipline, for the method of punishment was similar to that used on Naval training ships. The boys to be punished had straps attached to their hands and they were spread out to be birched. Immorality, thieving, fighting, chewing tobacco, lying and desertion were all punishable by flogging. It seems that Kyder had taken a rather strict

51. See Appendix I.

52. Figures from HQ45/9840/L10830. Item 16.

interpretation of desertion, so that it included boys who had visited friends without permission, even though they intended to return within a few hours. His reason for doing so was that he hoped to discourage the continuation of friendships with former undesirable companions. He had also reduced the boys' entitlement to leave on the same grounds, which caused even more ill-feeling.

A question of discipline had also affected the relationship between the masters and Governors of the Sunderland Orphan Asylum. The Sunderland Herald blamed the departure of Mr. Gillespie and Mr. Clark on the Governors as they meddled too frequently. A similar charge was made later against the Governors of the 'Wellesley', especially Mr. Hall, who it was claimed often was the only member to attend Committee meetings. At the Sunderland Orphan Asylum, the situation must have improved as the staff stayed longer, but in February 1865, three boys ran away because a child had been deprived of food after misconduct in church. The practice of food deprivation was to be condemned later by H.M. Inspectors. Later in the same year, it seems that the asylum boys were being tempted to abscond by children who lived near the asylum. Further cases followed and in the autumn of 1870, eight boys ran away. Such an insubordinate spirit was blamed on a number of causes, including the nature of the boys' homes, reading novels and sleeping unsupervised in a large dormitory where they could conspire together. This last reason was removed when a boatswain was employed,

and the second when the boys were allowed to read Chatterbox and Leisure Hour, as a relief from the hard dry reading 'of science and religion'.(53) From November 1874 to September 1879, there seems to have been no further cases of desertion brought before the Committee.

The practice of referring insubordinate boys to governing committees was a common one. It was probably used in the Boys' Department of the South Shields Marine School, but no exact details of the punishments awarded have survived. We also know that the master of Trinity House School, Hull, had difficulty maintaining discipline as he could not use corporal punishment and could only report insubordinates to the Brethren. Whether the same occurred in the Newcastle Trinity House School, it has been impossible to ascertain. We know that according to the 1825 Regulations, the boys were required to show respect to the master, so it seems safe to assume that the boys must have been rowdy on occasions, just as they were on the 'Wellesley'. Generally, corporal punishment was not viewed with favour in the land based nautical schools and as early as 1783, Hanway preferred the use of punishments involving an element of shame, but avoiding physical violence. However, the training ships do not seem to have followed Hanway's recommendation, but modelled themselves on the Royal Navy training ships, where brutality ruled. Morris in The Captain's Lady records that one officer on the 'Mercury' had

53. Sunderland Times 13 November 1874.

come from a Naval training establishment and he had beaten many boys in a most vicious manner. Ryder, previous to his appointment to the 'Wellesley' had also worked on a Navy training ship.

Ryder felt that the newspaper reports had damaged his reputation, so at his instigation Admiral Field had raised the matter in Parliament with the hope of getting an official inspection. This aim was realised and the inspectors found that the charge against Ryder of excessive severity was not proved. After considering the punishments used in other industrial schools, they recommended that the practice of older boys holding the hands of younger boys while punishment was inflicted should be stopped.

It is hard to decide whether the absconding resulted in more punishments or the punishments resulted in an increase in absconding. However, Henry Matthews, the Secretary of State at the Home Office, did draw attention to the abnormal number of punishments inflicted. During the year previous to Ryder's appointment, only 302 strokes of the cane and birch were given, but during Ryder's first year, the number increased to 1304 strokes and by 1890, 1885, without any increase in the number of inmates. This was not the first time there had been a call for a decrease in the number of punishments, for H.M. Inspectors in the 1870s had expressed an anxiety about the too frequent use of the cane; yet in subsequent years, they were often pleased to note a decrease in its use. The inspectors in 1891 did not think that the number of strokes

was excessive considering the class of boys dealt with, but the Home Office records show that some officials were not so happy;

'The Inspectors are inclined to condone this enormous quantity of flogging, but I trust the Secretary of State will not do so' (54)

They advocated greater care in keeping the punishment book and that a successful administrator should be able to maintain discipline with as little punishment as possible. They would no doubt, have approved of one schoolmaster employed in a local industrial training school, who did not use corporal punishment at all, but excluded naughty boys from the classroom. However, if one considers other training vessels, brutal punishments were frequently employed. Even on the 'Conway', a ship comparable with private and public schools, boys were flogged occasionally. Steele in his Story of the Worcester recalls one instance of a flogging when a boy was given twenty four strokes of the birch because he had been violent towards the staff. As the years passed, only the cane was permitted and the number of strokes reduced. The only ship which was to gain notoriety this century for its use of punishments was the 'Mercury'. Morris begins his life of Beatrice Holm Fry, the vessel's inspiration, thus:

'A woman stands a few feet from a ship's gun with a boy...bound hand and foot over the breach. He is being flogged...Lined up nearby are one hundred and fifty boys' (55)

54. P.R.O.H O.45/9840/B10830. Item 16.

55. R. Morris. The Captain's Lady 1985.p.1.

The effect of the beating was visible for all to see, but what is interesting is that Dr. Gowan of the 'Wellesley' in his evidence in June 1891 claimed that he had seen no beatings or the results of such beatings. He examined the boys each week and found no marks on their bodies. It has, of course, to be remembered that Gowan was employed by the Committee and would not have been in a position to give evidence which would have angered them. In his defence, H. Ryder claimed that he had been more conscientious in his keeping of the punishment book than his predecessor, but some members of the 'Wellesley' Committee, including Mr. John Glover, did not believe him and called for his resignation. At the Annual Meeting in 1891, it was finally decided to terminate his appointment and Ryder seems to have gone to the Isle of Wight by the November, but nothing is known of his subsequent employment and captaincy of the 'Wellesley' was given to Captain H. Baynham. Under his guidance, the use of corporal punishments declined, as new regulations restricted the use of the birch and cane to

'twelve strokes on the posterior with a birch or six strokes with a cane on the palm of the hand'. (56)

The question of punishments was to re-appear again on 24 January 1895, when Mr. J. MacDonald, the ship's Roman Catholic Schoolmaster, wrote to the Home Office calling attention to punishments inflicted on boys for immorality, which were not recorded in the punishment book. The Home Office concluded

56. Byelaws for the Management of the Ship 3 March 1892.
rule. 5.

that the punishments were more like a medical treatment and were calculated to be remedial in operation. The boys had been 'blistered' after being found guilty of self abuse. It was decided to hold an inquiry and as a first step, the Secretary of State wrote to Baynham for an explanation. In his reply, dated 30 January, Baynham stated that

'such punishment...is not the practice, but as there are several cases of self abuse, I consulted the medical officer, who fully approves of the blistering being resorted to and I am happy to say it has not been found necessary to repeat such punishment. The blistering was done by the hospital attendant and is enclosed in the rough book'. (57)

The Secretary at the Home Office, Mr. K. Digby, and H.M. Inspector Inglis both found the punishments inexcusable and irregular,

'and is evidence of the greatest want of judgement and contempt for the rules... Had not Baynham adopted the word punishment... I should have supposed the doctor entirely to blame' (58)

Further investigations showed that Gowan had used the 'treatment' on his own private patients and great exception was taken to the fact that the hospital attendant had carried out the treatment. Gowan also claimed that 'blistering' the male sex organs had been used for twenty five years by the medical profession to break the habit of masturbation. To check Gowan's claim, the Home Office consulted a doctor in the medical division of the Prison Department, who replied

57. P.R.O. HO45/9841/B10380A. Item I.

58. ibid. Letter from W. Inglis, 6 Feb. 1895.

that

'the majority of medical men deal successfully with cases of self abuse without resorting to the blistering fluid' (59)

If blistering fluid was used, it had to be a last resort and applied by a properly qualified medical man. with such information, Rogers, the inspector, came to a conclusion that expressed his

'disapproval of this experimental dealing with a boy's vicious inclination. (He thought the method) thoroughly revolting.(It cannot be right to trifle with the parts referred to' (60)

The blame seems to have been attributed equally between Gowan and Baynham, but Gowan was still dissatisfied. After the inquiry, he wrote to the Home Office re-iterating his views and asking how he was to treat future cases of self abuse. The Home Office's reply stated that there was to be no more blistering and that they were not sure if there was any medical treatment. The question remained as to what was to be done about Baynham.

The charge against him was a serious one and there were three courses open to the Home Office: - retirement, dismissal or reprimand. The last course was preferred as Baynham had effected some good on the vessel and the Home Office believed him to be a weak, but well meaning man. Legge was to come to a similar conclusion; Baynham was a good chief officer but he was

59. ibid. Item 4A.

60. ibid.

'utterly unfit to command. Neither his station nor his appearance nor yet his manner inspire respect' (61)

Generally, Legge felt that Baynham's discipline was weak and that he made only

'spasmodic efforts (to keep discipline) and gave way to passionate outbursts... it is to a spasmodic effort...that I ascribe the blistering...a kind man prone to errors of judgment. ' (62)

The facts concerning Baynham's temper have been substantiated by Miss Sylvia Kaine of Gateshead whose father was a 'Wellesley' boy.

Baynham's worries over masturbation seem to have been aroused by his attention being drawn to the fact that the practice was common in public schools. In fact, he seems to have been obsessed with the problem, for in a letter dated 30 January. 1895, he wrote that

'I beg to call attention to the fact that last year, two boys died in hospital from consumption or brain disease accelerated by self abuse'. (63)

In a letter dated 18 February, another 'Wellesley' officer, Mr. J. Davis claimed that he had seen boys punished even if they were only suspected of the habit. The Secretary of State was so worried that he even considered withdrawing the ship's certificate, thus ending government aid. Baynham may have argued that he had acted in the boys' interest, but the medical basis for his views was very questionable. No doubt

61. ibid. Item 13. Letter from H.M. Inspector Legge to the Home Office, 5 June 1896.

62. ibid.

63. ibid. Item I.

he believed, like most Victorians, in Tissot's and Voltaire's view that masturbation was evil and linked with insanity, epilepsy, eye disease and acne. It was not until the end of the nineteenth century that the traditional views were being questioned.

Davis also made other accusations about Baynham's behaviour, alleging that he acted like a petty tyrant, who distrusted the other officers on the grounds that they conspired against him. A third ship's officer, L.R. Saxon, in a letter dated 20 March 1895, cast doubts on Baynham's sanity. Legge and the other inspectors found that many of the allegations were made out of pure vindictiveness and that Davis had got some of the other officers to join in a campaign of hatred against Baynham after Davis's dismissal from the ship.

One accusation which did have some truth in it concerned Baynham's removal of a page from a punishment book. During his inspection in the February, Rogers found that the August 1894 page was missing. It seems that Baynham had ordered Davis to tear out the page in question, but when he refused, Baynham removed it himself. Rogers claimed that Baynham's excuse was that punishments had been entered which should not have been included. Rogers concluded that Baynham had acted hastily without thinking and ignored the truth. Baynham was given a reprimand and the incident was viewed as another error of judgment. The fact that Baynham had re-written the page in question later, probably saved him

from a more severe punishment.

The motives for Davis' and Saxon's allegations soon became obvious to H.M. Inspectors in May and June 1895. Baynham had insisted on the former's resignation because he allowed three boys to sleep at his house without supervision. It also seems that when the band boys had been away from the ship, they had all slept in the same bed. These were not the only hints of immoral practices, for Davis had also got the boys to bring him alcoholic drinks from the Black Swan, a notorious public house and brothel. Boys had also been used as go-betweens between the officers and prostitutes. Three boys were particularly friendly with Davis, and Legge observed that they were 'exceedingly good looking', (64) especially the boy Barñas. Much is hinted at in the reports of the inspectors, who even got sworn testimonies from the boys concerned. Legge commented that the evidence

has only to be taken with other boys' evidence to secure real evidence of serious offences at law' (65)

committed by Saxon, Davis and possibly some of the other officers. Legge recommended the transfer of the cabin boys, so that they were brought under the guidance of a good man, thus ending the influence of Davis over the boys. Legge also wanted the vessel moored elsewhere, as the surrounding area was full of brothels and prostitutes. The argument that

64. ibid. Item 13.

65. ibid.

such temptations were good for the boys as they taught them to develop the necessary will and force of character to withstand them were no longer acceptable. Even in 1889, H.D. Ryder had caught three boys in a brothel and as early as 1891, the Secretary of State requested the Committee to find new moorings. Hall opposed the suggestion on the grounds that the moorings the vessel occupied were the best available. He forced the Home Office to drop the idea, but with Legge's report, it seemed that the time was ripe to make the suggestion again. The inspector advocated that the matter would have to be handled with care, as he feared that Hall might claim that the Home Office was carrying out a crusade against the ship. Legge realised that Hall would be the chief obstacle, for

'Hall (is) a masterful person and he has secured the position of being a philanthropist. He prevents others from doing good' (66)

This time Legge felt that Hall could be driven from his position of power on account of his age. If Hall did not accept the change, then the institution would lose its certificate and therefore cease to exist. Legge suggested that it might be possible to persuade Hall to open a shore nautical school, thus alleviating the problem of supervising the boys, or they could threaten to resite the vessel on the Isle of Wight. Legge felt that the latter option was particularly attractive, as it would solve the problem of

what was to be done about the ship's staff. The officers would have to be checked and those found wanting removed. If the institution was given up, the problem would be solved and new staff could be appointed for the proposed school. When the Committee heard of all these proposals, they claimed there were no brothels in the area, (67) but they agreed to make every effort to move the vessel. Nothing was done and the Home Office realised that if it closed the 'wellesley', it would have three hundred inmates to dispose of. Hall also objected to the move on the grounds of the costs involved and expressed the view that the administration could not be improved. A further visit by H.M. Inspectors confirmed their views about the area, but they also learned of the beating of a boy stripped for the bath and the indecent assault of Baynham's seven year old daughter. Further doubts were raised about Baynham's competence and it was even suggested by the Home Office that it might be wise to remove him. Legge, however, felt that Hall could make life very difficult for any successor to Baynham.

Hall had his supporters, including the Daily Leader which claimed that the inspectors had reached their decisions after only a brief visit and that the berths on the south side of the river were open to contamination by the same influences. The situation reached an impasse and the Home Office even considered stopping the transfer of boys from the Green's Home to the vessel. By September 1896, Legge had come to the

67. See HO45/9840/E10820. Items 44, 45, 46 and 47.

decision that a ship on the Tyne would never be efficient as the river was too narrow. It seems that a compromise must have been reached for the vessel continued to exist and according to the 1899 Annual Report was moored near the Low Light, North Shields.

In some respects, the events of the 1890s were similar to incidents which took place earlier in the vessel's history, for The Sunderland Times published a story in 1874 about Mr. Cole, who had been dismissed from the ship after six months' service. On the first day of his appointment, he had been amazed by the bad discipline for

'punishment went on like what he had never seen before' (68)

His complaint resulted in the Committee and doctor examining the boys, but they found no bruises. Mr. Cole also witnessed boys being sent ashore by the staff to buy beverages. Perhaps the boys saw such visits as a relaxation from the strict discipline. Many people after a visit to the ship remarked on how happy the boys looked, but one cannot help but wonder.

The success of the 'Wellesley' is hard to assess, as much depends on how one views the institution. If one takes the number of imitators as a guide, then other philanthropists must have been satisfied. By 1874, there were eight industrial training ships around our coasts and there had been an aborted attempt to establish a vessel on the River Wear by the ship-owners of Sunderland. Twenty four years later, it seems that there were eighteen training ships in addition

to the 'Worcester' and the 'Conway'. If, however, the 'Wellesley' is viewed as an attempt to solve the problem of pauperism, then its success was only a qualified one, for during its first thirty three years, the vessel only received 3356 boys. They were, no doubt, thankful to be saved from a life on the streets, but there were still many paupers to be seen in the towns and cities. It would be unrealistic to expect the industrial training ships to solve a national problem and the many evils associated with it. If one views success in terms of how well the ex-inmates did in later life, then the vessel seems to have been a success. Many of the boys were able to pass the examinations to become engineers, mates or masters. If the institution is seen as an attempt to stem the influx of foreigners into the British Mercantile Marine, then the 'Wellesley' and others like it, must be viewed as a failure, for many of the inmates chose shore occupations. Rev. S. Turner noted that out of 140 boys who had left the ship upto 31 December 1872, only 68 had gone to sea. (69) By 1895, the position had only improved a little, with only 39 out of 65 discharged boys (70) going to sea that year. The vessel also failed to attract as voluntary pupils the children of those people who could be described as better off. To solve this problem, James Hall suggested in 1874 the establishment of a marine officers' college ship on the Tyne. The aim of the institution would have been to supply scientifically trained officers for the Mercantile

69. See P.R.O. H045/9340/22217 Letter 6.

70. Based on figures in P.R.O. Returns respecting Reformatory and Industrial Schools, 1895. lxviii 507. no.250.

Marine. It was hoped that the Admiralty would lend a ship, and subscribers raise £2000 for fitting her out. Subscribers would be required to contribute until the vessel got its full complement of students, who would have to pay fifty guineas per annum. Not surprisingly, considering the 'Wellesley's' financial difficulties, nothing came of the plan. Those who left the 'Wellesley' and wished to become officers in the mercantile marine could follow the time honoured route. They could study for their mate's and master's certificates in the schools especially established for such work.

CHAPTER 4.

The Examination System for Mercantile Mariners 1836 - 1900.

The 1836 Select Committee suggested the establishment of a system of examinations to ensure the competency of Mercantile Mariners in seamanship and navigation. Those who were successful were to receive a licence before they could be appointed to a master's or mate's berth. The First Report of the 1843 Committee came to a similar conclusion and stated that

'under all circumstances it would materially promote science and prevent the loss of life (at sea)...if a legislative enactment were introduced...establishing local boards for the purpose of examining into the ability, conduct and character of all who wished to qualify as masters and mates'(1)

The debates and events, both inside and outside Parliament, leading to the establishment of the system of examinations, have been discussed by T.W.C. Vasey in his thesis 'The Emergence of Examinations for British Shipmasters and Mates 1830-50'(2) and in C. Jean's 'A Critical Study of the Education and Training of Masters and Mates in British Merchant Ships' (3) It is not the aim of this chapter to reflect again on such matters in any great detail, but to consider the contents of the various examinations, their value as a means of ensuring competency and the responses to the criticism that arose. Part of the chapter will discuss the examinations for sea-going engineers and how

1. S.C. 1843. ix. 549. p.iv.

2. T.W.C. Vasey. 'The emergence of examinations for British Masters and Mates' Ph.D. Durham, 1960.

3. C. Jeans. '...critical study of the education and training of Masters and Mates' B.Tech. Brunel. 1970.

they were revised as the century progressed. The final section of the chapter will consider the moves made to extend the examination system, so that able-bodied seamen and other ranks were tested as well.

It seems that Vasey was correct in asserting that there was a regional thrust which led to the foundation of a national system. In a number of seaports, some concern had been expressed in the annual report of the marine insurance clubs regarding the number of ships lost each year due to the ignorance of shipmasters. In Sunderland, this concern led to positive action when a local marine board was established to examine prospective ships' officers in August 1837. It could be suggested that this may have been a response to the failure of Buckingham's Bill (4), but more likely it was an act of self interest, as owners had been faced with increased premiums due to the large number of losses, and the Marine Board was an attempt to reduce insurance costs.

The Sunderland examinations, which were awarded in three grades, covered navigation, seamanship and nautical astronomy. It has not been possible to discover what was actually included in the examinations, but the Sunderland Herald hoped that the examinations would stimulate the masters and mates to apply their time more diligently to the acquisition of useful knowledge;

4. See Appendix 1 and P.P. 1837. iv. 102.

'the interesting and indispensibly useful science of navigation in all its branches will be pursued and the determination of the longitude by chronometer and lunar distance will be reduced to general practice' (5)

Possibly, the examinations were similar to those used by the Royal Navy and the defunct East India Company, where promotion depended on successful results. Later in 1843, the Royal Mail Steam Packet Co. introduced its own examinations in navigation and seamanship.

It has been impossible to ascertain whether the Sunderland examinations were as severe as those used by the Royal Navy or the East India Company. However, on 25 November 1837, the Sunderland Herald reported that upwards of twenty young men had been examined, but it gives no indication of how many had been successful. The Marine Board's first annual report was equally vague, but it did claim that the

'young seamen...have betaken themselves studiously to improvement...many of them have already made considerable progress in the use of figures and navigation.' (6)

Not only was there an academic improvement, but there was also a moral one, for many, it was claimed, had given up their dissipated lives. However, the Board was not without its critics, and some doubts were expressed in the Sunderland Herald and the Nautical Magazine about its impartiality. It seems that even a teacher of navigation was a member of the Board, and he had the privilege of examining his own pupils. Others took a different view, and one writer to the

5. Sunderland Herald 9 September 1837.

6. N.L. Vol. VII. 1838.p.625.

Nautical Magazine was so impressed that he wished other ports would follow Sunderland's example.

Inspired by Sunderland, two other ports are known to have followed suit; one was South Shields and the other was Elyth, a sub-port of Newcastle. The evidence for the latter having its own examination system is in Sir Walter Runciman's Collier Brigs and their Sailors. Regrettably, no other evidence appears to exist and investigations in the town have failed to uncover any. Runciman claims that the examinations were held at the Dock House, but no such building existed in the nineteenth century. The local history society believes that the 'Dock House' was nickname for a public house, much frequented by mariners. Furthermore, Runciman does not give any dates as to when the examinations were inaugurated, but it seems probable that they started in the 1840s. One thing that is evident is that they never formed part of the national voluntary or compulsory system, for Elyth was not included in any lists of places where examinations were held. They may have existed for many years alongside the national system, for Runciman noted that holders of the Elyth certificate were permitted to sail in union manned vessels as able-bodied seamen. Unions were not part of a seaman's life until the middle of the nineteenth century.

It seems that the examinees for a Blyth certificate were tested in seamanship by a committee of local shipowners and masters. Runciman comments that they were

'not over-endowed with scholarship, but they were unequalled in their knowledge of their profession' (7)

Making short and long splices, putting a clew and cringle into either a fore and aft or a square-rigged vessel and a knowledge of rigging were required. These and many other tests were to be included in the Board of Trade Examinations introduced in 1851. The Blyth examinations were viva voce and were probably a test for those seamen wishing to be described as able-bodied. However, a number of questions were aimed at those aspiring to take command, including what action should be taken to stop a ship fouling anchor in Yarmouth Roads. Such questions were not part of the examination proper and no one failed if they could not answer, but if they did, quick advancement was predicted. When the examination was concluded,

'the successful candidate was expected to stand drinks to the whole committee' (8)

This has led some members of the Blyth Local History Society to believe that the examination was really an alcoholic initiation ceremony.

More definite proof exists for the other port which followed Sunderland's example, South Shields. During 1837, the Shields Marine Insurance Association set up a committee to consider the question of competency and in its report, dated 30 October, it recommended the formation of the South

7. W. Kunciman. Collier Brigs and their Sailors 1926. p.31.

8. ibid. p.34.

Shields Coasting Board to examine the practical and theoretical knowledge of seamen.

As in Sunderland, three classes of certificate were awarded. The first class certificate was for the coastal trade only and the candidates had to produce evidence as to their ages, servitude, sobriety and good conduct. They had to evince a knowledge of the coast, its dangers, and whatever was related to practical seamanship in general. A second class certificate existed for those intending to work in the coastal trade, the Baltic, North Atlantic and the Mediterranean. These candidates were to be examined in the same subjects as those sitting for a first class certificate as well as plane navigation, the nature and use of sea charts, the nature of charter parties and bills of lading.

The final grade, the third class certificate, was the highest and it required the candidates to have passed the examinations specified for the other two classes. They also had to have a competent knowledge of navigation in all its branches, including lunars and chronometers. Applicants passing this examination were required to pay three guineas, while those sitting the second class examination had to pay two guineas to cover the costs involved. These fees seem to have been similar to the fees charged by the Sunderland Marine Board, which charged £3 for a master's certificate for the foreign going trade and £2 for a coasting certificate.

The South Shields Board also permitted masters, who had

been employed as such before the establishment of the examination system to present satisfactory proof of experience and good conduct, so that they could obtain a certificate of service. The fee for such a certificate was five shillings, but any master could sit the examination for a certificate of competency if he wished.

The rules of the Association also allowed for inquiries into any ship which was lost and this seems to have been the basis on which the later system of Wreck Inquiries was founded. Any master found guilty of incompetence could be discharged and not allowed to command a vessel insured with the insurance association again.

The first examinations were held in Shields on 18 August 1838 and during the first year that the system operated, forty six candidates received certificates. By 18 November 1842, the Board was able to report that it had awarded a total of one hundred and fifty three certificates since its inception (9) and upto 1 January 1851, the Board had granted a total of six hundred and fifteen certificates. Tyne pilots also had to hold the Board's certificates and any master who did not hold the certificate was charged an additional five percent upon their insurance premiums. Soon the policies of the various underwriters in the association included the clause that

'members of this insurance are not to employ such persons as masters...without such certificate' (10)

9. Gateshead Observer 3 December 1842.

10. Unanimous Insurance Association Policy 1840-1. Rule 18 pp.14-5.

whether the societies were able to enforce this rule, it is hard to discern, but in his evidence to the 1843 Select Committee, Robert Anderson of South Shields stated that the rule was difficult to enforce. Aberdeen tried a similar system with only limited success, but at Sunderland the situation seems to have been somewhat different. There the underwriters also inserted a clause into their policies requiring masters to hold Sunderland Marine Board Certificates and according to Alderman Thompson in his evidence to the 1839 Select Committee, the rule was successfully enforced. Such rules, no doubt, implied compulsion and this was unacceptable to many businessmen. This was the main reason why the bills proposed by Mr. James Silk Buckingham (11) in 1837 and Captain Robert Fitzroy (12) some five years later, which both aimed to set up a national compulsory system, were defeated. Fears of state interference in the shipping business and that Trinity House, which was to administer the system, would have too much power, also played their parts. The feeling was that a voluntary system would be acceptable, but W. E. Gladstone, then Vice-President of the Board of Trade, announced that the matter was not ripe for legislation and that further consideration would have to be given to the matter so that the House could proceed next session.

During 1843, a Select Committee was set up to investigate shipwrecks and it collected a great deal of evidence about

11. See Appendix I and P.P.1837.iv. 102.

12. See Appendix I and P.P. 1842.iii.501.

examinations. The Committee was mindful that some owners were not in favour of obligatory legislation, so its draft report omitted any reference to the need for a compulsory system of examinations, but it did hint at it in its recommendations for legislation;

'obliging in future that all masters and mates in the merchant services to be examined by competent persons.' (13)

Further weight was given to the pro-examination lobby's arguments by the evidence from the replies to James Murray's Circular to the British Consuls. (14) In January 1844, Murray informed Viscount Canning, Under Secretary at the Foreign Office, that many of the consuls were in favour of an examination system. After some further consultation with the Board of Trade and Lloyd's Register, it was decided to ask the Admiralty to prepare a plan for a number of boards to be established in London and the outports to examine masters and mates on a voluntary basis. The plan was ready within a week and forwarded on 22 March to Trinity House London. Other public bodies, such as Glasgow Pilotage Board and Newcastle Trinity House, were asked to submit their views. By July 1845, draft copies of the examination regulations were being circulated among the various examining boards and during the next month, the London Gazette reported that from 1 November 1845 voluntary examinations would be introduced.

The Board of Trade would be ultimately responsible for

13. S.C. 1843. ix. 549. p.xi.

14. See Chapter 1.

the examinations, but the responsibility for operating the system would be vested in the Corporations of the Trinity Houses in London, Newcastle, Hull and Leith, the Sub-Commissioners of Pilotage at Beaumaris, Milford, Plymouth, Portsmouth and Great Yarmouth, the Boards for Licensing Pilots at Glasgow and Liverpool and the Ballast Board of Dublin. Other ports were to be added when they possessed a competent examining authority, and one of the earliest to be so admitted was South Shields. Sunderland also applied, but it was refused on a number of occasions.

The examining boards under the voluntary system could grant to a successful candidate either a master's or mate's certificate in one of three grades. The examinations were to be carried out by at least two experienced examiners, who had been in charge of a vessel on over-sea voyages. The first and second class examinations were to be carried out with the assistance of a scientific person acquainted with the theory of navigation and nautical astronomy. No candidate was to be examined for a master's certificate unless he was aged twenty one years and for a mate's a candidate had to be at least nineteen. Candidates for a master's had to have served six years at sea and for a mate's, four years. All applicants had to prove their ages, service and sobriety. They also had to be able to write a legible hand and understand the first five rules of arithmetic. It seems that there were some doubts as to what the fifth rule was, but the time honoured expression was used, and continued to be used,

throughout the rest of the nineteenth century. They were also to be examined on their knowledge

'of seamanship, rigging vessels, storing a hold, in addition to which those to be admitted into the lowest class...must be able to correct the course steered by a compass for variation, leeway...to work what is termed a day's work, to prick off the vessel's place on a chart... They must show they understand the use of the quadrant or sextant...can observe the sun's meridian altitude and therefore determine the latitude and be able to understand the tide by the age of the moon, from the known times of high water at the full and the change' (15)

In addition to the above, candidates for a second class certificate had to be able to ascertain the

'latitude by double altitude of the sun, by meridian altitude of the moon, of those bright planets or stars, the places of which are given in the Nautical Almanac. They must understand the care and management of the chronometer... (and) must be able to ascertain the variation of the compass by azimuth of the sun' (16)

For the highest grade of certificate as master, each candidate had to

'undergo a more strict examination as to their proficiency in navigation and...seamanship under the many difficult circumstances and trying situations to which vessels may be exposed, such as having to erect and rig jury masts...or to form rafts in case of being stranded.'(17)

They also had to have a knowledge of plane trigonometry, mercantile book-keeping and nautical astronomy. Rules Eight and Nine of the voluntary regulations, furthermore, required an acquaintance

15. London Gazette 19 August 1845. Also in N.M. Vol.XV 1846. pp.483-6. and vol. XIV. 1845: pp.71-3.

16. ibid.

17. ibid.

'with the mode of ascertaining and applying the deviation of the compass...the mode of comparing two or more chronometers...(and) the construction of Mercator's chart, so as to be able to correct any errors they may detect.' (15)

If a candidate was able to prove that he had a higher attainment than those stipulated above, such as being versed in great circle sailing, spherical trigonometry or marine surveying, it was to be noted on his certificate and it was to be endorsed 'Class I Extra.' The examinations for mates were to embrace the same subjects as the master's, but not to such a high standard - the reason being that a mate had to be the master's substitute in certain contingencies.

The examinations were not instantly popular and they were not without their critics. The Nautical Magazine attempted to publish the names of successful candidates, but by March 1846, it seems that only seventeen men had gained first class master's certificates; six, second class certificates and three, third class certificates. Three of the candidates had passed the examination in South Shields and one at Newcastle Trinity House. Six months later, a further list showed that only eighty eight masters and twenty eight mates had been successful. What is obvious is that only a small proportion of the total number of masters and mates must have taken the trouble to present themselves for examination. During the period 1845-50, Vasey has calculated that only 2591 master's certificates and 457

18. ibid.

mate's certificates were awarded under the voluntary system. One cannot help but wonder why so few entered for the examinations. Perhaps, as one writer to the Nautical Magazine contended, only the most highly motivated came forward, while the vast majority remained uninterested. Furthermore, the material benefits to be gained from holding a certificate seem to have been minimal, and on a number of occasions, the Nautical Magazine reported that it had received no information as to whether any masters or mates had been promoted because of being successful in the examinations (19) or had received extra pay.

Perhaps another reason why so few presented themselves was that they feared the disgrace of failure and being placed in a difficult situation with regard to their employers. What was an owner to do or the master for that matter, if a commander entered the examination and failed? Was that shipmaster really competent and was he to be trusted to navigate a vessel safely? This was probably the reason why a high proportion of candidates entered for the examination at London, where there was a chance of being able to keep a failure secret and the candidate was unknown to the examiners. Similar points were raised by 'An Old Captain' in the Nautical Magazine, when he wrote that a master

19. The same arguments were to appear later in the century with reference to the extra master's Certificate. See below.

'who has been a commander for the last twenty years before he can take up a government contract is compelled to pass an examination...He has well fulfilled his duties in the different grades through which he has passed; can provide testimonials of respectability... yet because he does not understand plane trigonometry, he is compelled to take a second class certificate and has the mortification of seeing in the same published list...the name of some youngster as an extra or first class man, who may have been a sufficient number of years at sea-just to qualify him for this certificate, but who may lack that judgement, steadiness and capability for command which has secured to the well tried and long experienced but unsuccessful candidate, the respect and approbation of his crew for many years...Such men have no right to be subjected to so rigorous an ordeal. (but) all young commanders should be compelled to study' (20)

Perhaps the fear of failing was somewhat ill-founded, for a writer to the same magazine, after surveying the lists for June and July 1848, found that 85 per cent of those examined at Glasgow and all the candidates at Liverpool, Leith, Portsmouth and Newcastle for first class certificates were successful. Only at London was there a great chance of failure, for there only 4 per cent of candidates gained a pass.(21) A further letter, dated 5 October 1848, showed the proportion of first class certificates awarded and how it compared with the total number of passes. The total number of certificated masters was 950, of whom 616 were

20. N.E. Vol XVI.1848.p.490.

21. ibid. p.560.

examined at London and of these, seventy six or 12½ percent had gained the highest certificates. All the candidates sitting at Leith and Portsmouth had been successful, while at Liverpool, 96 per cent had not been disappointed. The figures for Newcastle and South Shields were not so high and in the former port, eight out of the twenty seven candidates or 29 per cent had gained a first class Certificate, while in the latter port, only 7 of the 143 candidates achieved that grade (22). The number of men presenting themselves for examination gradually increased and it is possible to discern in 'An Old Captain's' letter why this was so with regard to the master's voluntary examinations. First of all, exhortations had been published in the Nautical Magazine asking for more men to come forward and after pressure from a number of sources, including the same journal, the Lords of the Admiralty decided that in future when they hired any conveyance or transport, the officers were to be certificated. The Nautical Magazine declared that

'we rejoice to find that the voluntary system will now receive an impulse from this compulsory step which will awaken shipowners to the consideration of their true interests' (23)

Secondly, the ages of those examined show that young men preferred to present themselves for examination. In the list given in the Nautical Magazine for the period 21 December 1847 to 29 February 1848, of the one hundred and twenty one named as passing as masters, forty seven were aged twenty nine

22. ibid. p.606.

23. ibid. p.364.

or under, while only fifteen were aged over forty. It seems that some of the older masters feared that their chances of employment would decline as more younger men became available with certificates. Generally, owners in the 1840s, or any other decade, did not care about the education of their men, only how little they would have to pay them. However, with the general enthusiasm for examinations, some officers genuinely seem to have thought that the owners would in time employ only certificated men, because certificates implied better education and, possibly, safer navigators.

Another flaw in the voluntary system was the small numbers entering for the mate's examination. The list of successful mates for the same period as that above contains only thirteen names, whose ages range from twenty to thirty years old and nine of them were less than twenty five. Aware of the situation, the Nautical Magazine advocated that

'the examination of mates, which has hitherto been very limited, should be more strictly enforced, so that as they rise in their profession, they may find no difficulty...in proving their qualifications for command' (24)

Some, such as Newcastle Trinity House, were quite enthusiastic about the voluntary system, but others were less interested. During the early months of 1846, no examinations were held at Greenock or Glasgow. Even at the end of the year, Hull, Great Yarmouth and Beaumaris still had not established Marine boards, so the system was not only slow to attract examinees, but also slow to spread through the named ports.

Plate IV.

Portraits of Four Local Men Connected with
Nautical Education.

Mr. Henry Evers, teacher of Marine Engineering.

Thomas Haswell, master of the Royal Jubilee School,
North Shields.

Thomas Dobson, Headmaster of the Marine School,
South Shields.

James Hall, founder of the 'Wellesley' Training
ship.



MR. HENRY EVERS.



THOMAS HASWELL.



Thomas Dobson M.A.



James Hall

A final reason why men were reluctant to sit an examination concerned the examiners on the Marine Boards.

'An Old Sailor' wrote that some asked

'by whom am I to be examined, after a long apprenticeship of tried experience. By parties who, in many instances, are not themselves practical seamen, and holding their appointments either by interest or favour. A shipmaster of any experience, must feel it humiliating to stand before such persons to be catechised in a crude theory, on seamanship...this feeling leads me to think the system will prove a failure' (25)

Generally, the voluntary examinations were considered to be a failure due to the small numbers of men examined and certificates awarded. The vast proportions of officers remained uninterested, and so the voluntary system could have only achieved a small increase in the educational standards of the mercantile marine. Even if there was a decrease in the loss of property and lives, the examinations, therefore, could only be held partly responsible. With such criticism in mind, many writers felt that modifications should be made to the system. One group believed that the standard set was too high. 'Main Brace' wrote that he had been ten years at sea and had received some instruction at Mrs. J. Faylor's Academy in London, yet he found that

'an extensive knowledge is required for a first class certificate (let alone the extra)...in which it would require a study of at least a year... I...cannot afford the time to study, as every day is now of importance to me as I have promise of a share in the command of a vessel as soon as I pass the Trinity House Examination' (26)

25. ibid. Vol. XVII 1848. p. 71.

26. ibid. Vol. XVIII 1849. p. 377.

He wanted a second class extra certificate to be introduced which would include working a lunar and finding the latitude by reduction to the meridian.

A second group wanted the Government to continue the voluntary scheme and introduce 'some compulsory step... to secure a preference in the employment of perfectly qualified mates and masters' (27). The feeling was that it was the owner's responsibility to employ such men and that the matter could be further ameliorated by better pay, as it would attract men of a higher calibre.

A final group wanted the voluntary system replaced by a set of compulsory examinations. The pro-compulsion lobby slowly gained favour and Henry Labouchere, President of the Board of Trade, introduced proposals for a new system of examinations under the auspices of the Board of Trade and the local marine boards. Criticisms of the proposals were made by shipping interests against further government interference in mercantile matters and some feared that the new examinations would be too stringent. The new examinations were introduced from 1 January 1851 and it is generally agreed by authors, such as Blackmore and Allingham, that they were of a lower standard than the national voluntary system and possibly its predecessors the local examinations held at South Shields and Sunderland from 1837. In fact the Naval Department of the Board of Trade in their Notice of Examination of Masters and Mates stated that

27. ibid. Vol. XV. 1846. p.370.

'As the examination of masters and mates are now for the first time made compulsory, the qualifications have been kept as low as possible' (28)

The same circular also gave the requirements for each of the grades in the examinations for officers on foreign-going ships. (29)

Blackmore in his book The British Mercantile Marine - A short historical review noted that the requirements for an ordinary master's certificate were basically the same as those for a voluntary second class master's licence, except that a knowledge of compass deviation was no longer required. The new extra master's certificate was to be equivalent to the old first class master's certificate, except that the compulsory regulations made no reference to geometry and plane or spherical trigonometry. In fact,

'all reference to the science upon which the art of navigation is founded were dropped out of sight. (30)

rule of thumb and empirical methods, seemed to rule the waves, but Lindsay in his History of Merchant Shipping and Ancient Commerce took a different view, for he believed that compulsory examinations had produced a moral, social and intellectual improvement on officers. The 1860 Select Committee on Merchant Shipping was to come to a similar conclusion, for it commented that

28. Notice of Examinations of Masters and Mates 19 December 1850. p.7.

29. See Appendix 9.

30. J. Blackmore. The British Mercantile Marine. Short historical review 1890. p.77.

'Your Committee (is) in approbation of the system established in recent years for the examination of masters and mates of merchant ships: a marked improvement is undoubtedly observable in the class of officers and nearly every witness has concurred in recognising the practical advantages of the system' (31)

Such views became increasingly unfashionable and untenable as the volume of criticism increased, for more and more people began to agree with Blackmore that compulsory examinations had led to a diminution of standards. By the time that the 1884 Royal Commission into the Loss of Life at Sea heard evidence, there was a feeling that the examinations were neither stringent nor practical enough. The majority of witnesses were of the opinion that standards were not high enough and that the examinations were not as efficient as they could be.

Similar criticisms had appeared in 1869, after the Board of Trade issued a Notice of Alterations to Examination Papers, which stopped candidates bringing books into the examination room. Candidates were not permitted to copy or help one another and they were also not allowed to do any rough working, which provoked a certain amount of controversy and among the critics was Rev. A. L. Hooppell of South Shields Marine School. At the Social Science Congress, held in the October at Bristol, he claimed that not enough time was given to work the problems in the extra master's examination, while too long a period was given for a mate's certificate. He

31. Select Committee on Merchant Shipping, 1860.
530. pp. xxxi-ii.

also cast doubts on the wisdom of not allowing a candidate to use his own 'epitome of navigation'. He felt that the examination required 'too mechanical' a proficiency and they were capable of many improvements.

Support for some of his views appeared seven years later in the Nautical Magazine, when an article complained that the examinations were not based on any principles except memory(32). The author complained that mariners should be taught to think for themselves and that extra subjects should be added to the examinations. There can be little doubt that Arthur Martin was of the same opinion when he called for higher standards in the same magazine in 1878. Four years later, a further series of critical articles was published in which the author claimed that the only changes to be made in the examinations had been a 'shuffling' of the problems or a re-distribution of them, so that the lower grades worked more of the problems than the same grade in the past. The problems, it seems, that constituted the first days examination had remained basically unchanged since 1851.

The second article developed the above arguments, pointing out that the first changes in the examination had taken place in 1857, when the working of a longitude by chronometer became part of the only mate's examination. From that date, no further alteration was made until 1872, when

32. This fact had been noted by the Rev. Hoopell in 1869 at the Social Science Congress. See below.

'all candidates presenting themselves for examination...will be required to give short definitions of so many terms...as may be marked with a cross by the examiner' (33)

Furthermore, all grades were to be examined as to the use of the sextant and those above second mate were expected to understand the adjustment of the instrument and correct any errors. Only mates, first mates and masters were also required to answer questions about charts. The examinations on the sextant and the chart were viva voce, but in 1874, a 'decidedly retrograde step was taken', (34) when a written examination was introduced with the questions set out in a printed circular.

A number of other changes were made in 1877, including the introduction of a test to check a candidate's colour vision to ensure that he could distinguish the coloured lights used at sea. A set of colour slides was used at first, but from 1894, they were replaced by Holmgren's Wool test and a form vision test was also introduced. By such means it was possible to prevent boys with imperfect vision entering the service, and parents were strongly advised to have their child's vision checked before entering into any agreement with a ship's master. If a child were found to have defective vision at the end of an apprenticeship, his career in the mercantile marine would be at an end and it would be too late to enter another profession. Men who were

33. quoted by F. L. Ainsley. Guidebook to the Local Marine Board Examination 1876. p.8.

34. L.M. Vol. VI. 1882. p.511.

already in the service and went for a higher certificate found life very difficult if they could not pass the vision test. Only a small number failed, (35) but some managed to pass if they went to another examination centre, so one can possibly discern a discrepancy in the tests between ports.

A further modification to the examination was made in 1878 when a question on Sumner's method by projection was introduced, but the Nautical Magazine commented that it could have been

'an excellent problem, if properly treated; but the significance...of which was not grasped in the Board of Trade papers. It has always taken one form - the projection of lines of position arising out of computations based on two assumed latitudes, there is no objection to this special form but it might have been utilized as a means for the introduction of 'Time-Azimuth' Tables'... Unfortunately, it has been formulated as a fancy article' (36)

The next alteration took place in 1881, when second mates were required to work the problems which had originally been given in the only mate's examination and the latter's problems upgraded to those of first mate. Finally in 1885, a number of additions were made to the voluntary examinations for officers of home trade passenger vessels.

Basically, many people felt that the Board of Trade had failed to fulfil the aim which it had set itself in 1850 - that of being able

35. See Appendix 10.

36. N.M. Vol. LI. 1882..p.512.

'to raise the standard in the course of time whenever, as will no doubt be the case, the general attainments of officers shall render it possible to do so without inconvenience' (37)

They also contended that the Board's policy of introducing voluntary elements had proved unsuccessful. A voluntary test in compass deviation had been introduced in 1870 and there was also a viva voce test for masters and mates in steam;

'The examination will in fact be confined to what a master of a steam vessel may be called upon to perform in the case of death, incapacity or delinquency of the engineer' (38)

Intricate questions on the calculation of horse power or areas of cylinders and valves were not to be asked. Perhaps these were attempts to keep up with modern innovation, but generally, the view was that the examinations, their subject matter and mode of testing were becoming antiquated.

One of the examination rules which caused a great deal of controversy was the one which permitted an examiner to use his discretion as to when it would be permissible to return a paper to a candidate for correction. There was a growing feeling that this was open to abuse, and that it could, and did, lead to discrepancies in the standards required to pass at the various marine boards. Captain Trevitt in his report and Sir James Dombrain, in a letter, dated 1867, drew attention to the fact that it was easier

37. Notice of Examinations, op.cit. p.7.

38. Minsley, op.cit. p.7.

to pass at Cork than it was at Dublin. Such a situation had been acknowledged by the Registrar General of Seamen and J. Ricardo observed that the examinations were only inspected occasionally with the result that the system was far from uniform. (39) In some places, including Leith and Dundee, the teachers of navigation were also the examiners and at Cork, the examiner recommended which teacher was most likely to coach a candidate successfully. He was even known to have asked a candidate the name of his teacher. After examining Trevitt's report, E. Coleman suggested that the questions used in London should be used in the outports and that the candidate's answers should be scrutinized in London before the result was published. Also if a paper was returned to a candidate, it had to be noted and the reason recorded. What, in effect, Coleman was suggesting was a further centralisation of the system and a greater reliance on written answers. Such a suggestion was not to be without its critics and in 1882, the Nautical Magazine commented that the increased use of written answers meant that the work of the examiners

'in perusing the mass of writing(was)...
perplexing and onerous in the extreme (40).

It was also believed that if the questions were set in London, it would stop teachers being able to teach 'the manner to perform the answers'. It would also stop the 'examiners knowing the questions in advance and they would have to follow the rules, so there would be some uniformity in the

39. Correspondence held at R.N.C., New, 19/37/13223/1867.
E. Coleman was possibly employed at the Board of Trade.

40. See N.M. LI. 1882. p.513.

standards required to pass throughout the country.

The Board of Trade did, in fact, issue standardised questions in the form of printed books. However, in time, the form of the questions became known and where arithmetical problems were involved, only the numerical values were altered. This did lead to uniformity but it reduced the examinations to a matter of 'cramming'. Some of the witnesses, including Mr. Dunbar and Mr. Laid, when giving evidence to the 1860 Select Committee on Merchant Shipping, condemned the practice. Such criticism continued and in 1876, a writer to the Nautical Magazine expressed doubts as to whether some of the candidates understood what they were required to know for the examinations, and whether they could apply that knowledge at sea. In 1884, the Royal Commission into the Loss of Life at Sea heard many witnesses make the same comments and some added that the examinations included methods rarely used at sea. Captain A. G. Braes was of the opinion that the subjects could be better selected and

'it is more a system of 'cram' than a thorough examination for practical purposes' (41)

as candidates learnt it all out of books. Most of the witnesses felt that the time was ripe to make changes to the contents of the examinations and review the underlying philosophy.

41. Royal Commission into the Loss of Life at Sea: Final Report. 1887. xliiii. q.17163. p.167.

The campaign for reform was to gain ground during the 1890s, when a series of articles appeared in the Nautical Magazine. In the issue for December 1890, A. B. Martin of Norie's Academy, London, called for a return to the standards of the old voluntary examinations of 1845 and for the examinations to be based on an understanding of scientific principles. Later in the decade, others were to share similar views, but Martin believed that there had been some improvements including that of permitting candidates only a limited number of attempts at a grade before they had to spend a further period at sea, prior to re-examination. Martin suggested that the second mate's certificate should include chart work and the first mate's to have questions on currents and the deviascope. He even proposed that a third mate's certificate, based on the existing ordinary master's certificate, ought to be established. After a period of six years sea service, the proposed third mate could take further examinations and a certificate be awarded in two grades.

'the man who passes a first class being eligible without further examination for any berth afloat or ashore...while he who got the second class... should be eligible for all berths upto the rank of commander of the finest vessel afloat...(but) giving him the right to present himself for the higher examination' (42)

provided he was not aged fifty or over.

Others, such as the Shipmasters' and Officers' Federation, advocated that

'To raise the professional status of navigating officers of the merchant service, ... the Board of Trade be requested to establish voluntary honours examinations of an efficient type for each grade' (43)

The honours examination for second mates was to include trigonometrical ratios, solving plane right-angled triangles, proving the rules of navigation (except great circle sailing) and the rule for finding latitude by meridian altitude. These problems would provide a groundwork of good mathematical training for further work, while the various aspects of plane and spherical trigonometry were to be included in the honours examination for first mate and master. Such a plan would enable the standard in the compulsory examinations to be kept as low as possible, and the acquirement of higher attainments would receive suitable recognition. The proposal did have its critics, who thought that all the honours papers would require was extra time spent in a school acquiring the necessary methods. The contents of the proposed honours papers were, in fact, to be included in the revised examinations from 1898. It was important that it seemed that even the officers themselves recognised the fact that it was desirable that there should be a more searching enquiry into the mental calibre of the rising generation of deck officers. They also questioned whether the owners really desired educated officers on their ships,

43. ibid. Vol. L. 1891. p.1017.

as most of them seemed to be uninterested in the question.

P. E. Le Couteur opposed the Federation's plan and in the Nautical Magazine for 1891 he called for two grades above the then extra master's certificate, to be known as commander and captain, which would be linked to the size of vessel commanded. The then master's certificates gave no indication as to the size of vessel on which the master was qualified to serve. 'wanderer' in a letter, dated August 1894, and published in the same magazine, made a similar suggestion linking grade of certificate and vessel size when he proposed that captains were to have passed the extra examination; commanders, the ordinary and masters fulfilled the requirements for a home trade certificate.

The point on which most writers agreed was that the compulsory system had only created a glut of masters. Some then linked this with the depressed salaries given, for the supply of officers exceeded the demand. N. Morris in 'A Historians View of Examinations' would have described the examinations for masters and mates as a licensing system, for success.

'carried no entitlement to an appointment, it merely implied the right to practise or proceed further in common with all others who are so licensed and entitled to seek employment.' (44)

At most, all such examinations could achieve were the exclusion of undersirables and encourage those desirous of gaining a licence. Even if standards were raised, the system was still only a licensing one and some cast doubts on whether

44. N. Morris in S. Wiseman. Examinations and English Education 1961. p.4.

higher standards could be equated with greater care in navigation, for examinations did not counter negligence.

'An Old Sailor' in a letter dated 7 October 1891, and published in the Nautical Magazine, called for the higher standards to be introduced gradually, possibly from 1900, and then only for new entrants. What would have been the easiest course to adopt, perhaps, would have been to combine the then second and first class mate's examinations into a new second class mates examination, thus making the old ordinary master's the new first mate's, and the extra requirements the new ordinary master's examination. Alternatively, the old second mate's could have been turned into a new third class certificate and the old first mate's would then have become the new second mate's, with each of the higher examinations dropping down a grade. Under both proposals, the voluntary extra examination would have been incorporated into the compulsory system and a new one instituted if desired.

During the 1890s, some debate did take place about the value of having a voluntary 'extra' examination, for only 2 per cent of masters held such a certificate and most owners regarded it as superfluous, for the ordinary master's certificate proved that a man was legally competent to be a shipmaster. It could be claimed that the voluntary examinations showed that the holder had 'crammed' for a little longer and knew a little more. If there was to be such an examination, the feeling was that it should be based on an

understanding of scientific principles. When changes were proposed, it was hoped that the new examinations would be based on such an aim.

It was to be Captain George Beall, the Principal Examiner, who was to recommend revisions to the examinations. Beall proposed that second mates should undergo a fifteen minute test in dictation, so that writing and spelling could be checked. They were also to have a knowledge of deviation by alt-azimuth and 'Time-Azimuth' tables, to illustrate definitions by rough diagrams, be familiar with charts and give written answers to the whole of the sextant paper.

First mates, only mates and ordinary masters were to find the ship's position and compass error by stellar observation or by the moon, while the proposed extra master's examination required a knowledge of plane and spherical geometry. These proposals were highly reminiscent of the old voluntary examinations, but the proposed examinations were of a lower standard than the Advanced stages of the Navigation and Nautical Astronomy papers set by the Science and Art Department. The problem with the new extra master's examination was that while it was of a higher standard, it would discourage even more men from entering for it and would be superfluous under the revised system.

There was also a hint that the new examinations for masters should include a foreign language. This provoked a certain amount of opposition as some thought that all that

was required was a knowledge of written and spoken English. Support for such views came from 'Extra Master' in the 1896 Nautical Magazine who wrote that he was against the introduction of trigonometry, French and German into the examinations, for English was the language of the shipping world.

After some debate, the new regulations were issued in 1896 and came into effect in January 1898. The immediate result was that there was a rush to pass under the old rules during the last quarter of 1897. The new examinations were to be somewhat different from what Scall envisaged. The second mate's examination included not only his suggestions, but also the working of any practical problem in parallel sailing and work on error and deviation of the compass. Further rules required that they had to be able to find the true azimuth of the sun by the 'Time-Azimuth' tables, the errors of the compass, also the deviation, the variation being given;

1. To find on either a 'true' or 'magnetic' chart the course to steer and the distance from one given position to another; to find the ship's position on a chart...
The construction, use and principles of the barometer, thermometer and hydrometer' (45)

These requirements covered the ordinary minimum duties of navigation while the astronomical part was confined to day-light observation, and thus ensured that the candidate had a knowledge of proportion, decimals and geometry.

The requirements for only mate and first mate were to

45. quoted in N.M. vol. LXV. 1896. p.304.

include the computation of the time at which a star would be on the observer's meridian. They also had

'To describe where tables giving the names of the principal stars passing the meridian may be found...

To determine what bright stars will be within an hour or two...of the observer's meridian at any given time...

To compute the approximate meridian altitude of one of the stars just found, for setting the sextant.

To find the latitude from the meridian altitude of the same star...

To find the true azimuth of a star by the 'Time-Azimuth' tables and get the deviation therefore...

To calculate the capacity of a given...hold

To calculate a freight and its commission' (46)

Stellar navigation was thus added to the requirements of the examinations and was in line with Beall's proposals.

The revised master's examination also conformed with his ideas, but the candidates had to have a knowledge of the prevailing winds and currents of the globe and the trade routes as well. J. Bolam noted that hydrography had become one of the requirements for a certificate and that special reference to the stability of ships under various forms of loading was included in the seamanship questions for all levels. (46a)

Some minor revisions were also made to the voluntary tests, except for the examination in compass deviation, which remained unaltered. The voluntary test in steam had a practical in electricity as applied on ship added to its requirements. However, the biggest changes were made to the

46. ibid. pp.304-5.

46(a) see ibid. pp.303-310. For J. Bolam's work at Trinity House School, Newcastle, see Chapters 2 & 6.

extra master's syllabus, which was 'revolutionized' as questions were introduced about Sumner's method of finding latitude and longitude by simultaneous observations of two stars, the error of chronometer from single (equal?) altitudes, windward great circle sailing, composite great circle sailing, transference of great circle track from a globe to a Mercator's chart, practice of great circle sailing by calculations, tables, graphic method or great circle chart, trigonometrical ratios, the solution of right-angled and oblique-angled plane triangles, Napier's rules and their application to the solution of right-angled spherical triangles, construction of Mercator chart and the principles of construction of sextant and vernier.

Dolan felt that the new examinations would encourage an intelligent treatment of the subjects and a rational course of nautical training, instead of 'cramming'. His only regret was that a system of marks had not been introduced for the compulsory examinations. Such a suggestion had been made earlier on many occasions and in the Nautical Magazine for 1876, Blackmore, Allingham and Martin, all advocated the adoption of such a system, as it was used in other professional examinations and that it would encourage accuracy at the first attempt at the problems which was what was desired at sea. It was only the revised voluntary extra master's examination, which was to adopt such a system and this brought it into line with the examinations for sea-going engineers.

In their examinations, each of the questions was worth a certain number of marks, and for each slip or omission in the method, or in the numeration, one mark was deducted. The candidates were not required to work all the questions, only as many as they thought were necessary to gain the 66 per cent pass mark. The questions of an elementary nature were worth two marks each, while the marks beyond the minimum in any part of the examination could be used to make up a deficit of marks in another part of the examination.

The new system was not without its critics and Blackmore complained that the Board of Trade was still guilty of ignoring mathematical principles in the junior examinations and that the proposed examination upto that of master,

'rest upon the same basis as those at present in use, only with a little more added' (47)

He felt that it was only in the extra master's certificate examination that

'we begin to build on steps upon the basis of sound mathematical principles. Here the man who aspires to the honour of the extra certificate must begin and rebuild his education from the very bottom... prove step by step the principles and theory upon which the practical 'rule of thumb' rules and formula of his former teaching and practice have been based; in fact he must commence... a new education and go back to school again' (48)

Blackmore hoped that as the Board of Trade had begun with the extra master's certificate it would extend the same mathematical training to junior officers, for the revised

47. ibid. p.401.

48. ibid.

compulsory examination only encouraged more 'cramming' at the lower levels. However, 'cramming' could not make up for the many years of study required for the voluntary extra certificate or for those aspiring to pass the examinations for sea-going engineers. The system of examinations for engineers had been introduced in 1862 as an attempt to ensure that there were competent persons available to take charge of the engines in the increasing number of steam propelled vessels. As when the certificate system was established for deck officers, existing engineers could also apply for certificates of service; if they could prove their previous employment. The certificates of competency, required for all foreign-going and home trade passenger vessels, were to be awarded at either first class or second class level. There was also an honorary extra first class certificate which in many ways was reminiscent of the extra masters' certificate.

The academic requirements for a second class engineers certificate included the ability to describe boilers and methods of staying them, together with the use and management of different valves, pipes and connections. He had also to understand the use of the barometer, thermometer and salinometer. He had to be able to repair defects, state causes and usual remedies for encrustation and corrosion. As in the deck officers' examinations, an engineer had to write a legible hand, understand the first five rules of arithmetic and their application to questions about consumption

of stores, the full capacities of tanks and bunkers, the duty of pumps and the direct strains in engines and boilers. A final requirement was that the candidate had to have a knowledge of paddle and screw engines.

To pass a first class examination, a candidate was to be the holder of a second class certificate and be able to make an intelligent hand sketch or drawing of some part or parts of an engine and include the dimensions so that the sketch could be worked from. He must

'be able to take off and calculate indicator diagrams.

He must be able to calculate safety valve pressures and the strength of the boiler shell, stays and riveting.

He must be able to state the general proportions borne by the principal parts of the machinery to each other and calculate direct stress,...the bending stress...with given loads.

He must be able to explain the method of testing and altering the setting of the slide valves, and to sketch about what difference any alteration in the slide valve will make in the indicator diagram and also the method of testing the fairness of shafts and adjusting them.' (49)

The final and highest examination required that a candidate had to hold a first class certificate. The voluntary examination was held only once every three months at certain marine board examination rooms. The examination lasted over several days and included in its requirements knowledge of the construction and working of different engines, the elements of theoretical mechanics, theory of

49. T.L.Ainsley. Engineers Manual of the Local Marine Board Examinations 1898. p.4.

strains and stress theory of heat, the principles of the screw and paddle wheel and boilers. He was also asked to draw proper conclusions from diagrams and to construct appropriate diagrams for any given data. Another requirement was

'A knowledge of safety valve construction and principles involved in the determination of the size of the safety valves' (50)

Finally he had to know about lubricants, different fuels and the formation of scale.

One of the most innovatory aspects of the extra engineers examination was that

'The candidate may, with his application to be examined, send in questions set by himself and worked in his own way, without books. These must be forwarded to the Chief Examiner of Engineers. This is to afford him an opportunity of showing to the best advantage what he knows. Questions based upon these examples will be afterwards put before him to test the soundness of his knowledge.' (51)

No doubt, such a move was instigated as an attempt to stop 'cramming', an evil which had plagued the deck officers' examinations throughout the nineteenth century. As a whole, the engineering examinations would seem to have been difficult to 'cram' for, as they were based on a mixture of practical and theoretical problems. Even when changes were made in the academic content, they also kept in mind the need for sound knowledge.

50. ibid. p.3.

51. ibid. p.7.

The first change in the examination took place in 1874. Before that date the same set of questions were used with only the figures changed;

' From the 1 February, the form of question will be altered from time to time, or at each examination.

It is found that the candidates have, in many cases, neglected the general principles of the steam engine for the stereotyped questions. When these questions are inverted or modified in any way, many of the candidates are unable to work them: These questions are not special problems to be worked in the same form day after day, as are the problems given in the navigation papers; they are test questions for general knowledge. Immediately that the questions become stereotyped, they cease to be a test for anything beyond what they contain. The examiners have had to make up for this by a more searching viva voce examination. As these are not written, there is no record... It is to rectify this to some extent that the alteration in the examination papers is now being made. The only safe guide for passing in future will be to be thoroughly conversant with the principles of the steam engine.' (52)

The new regulations concerning the first class engineer's certificate required knowledge of the strength of a shaft against twisting and transverse breaking, the strength of an iron lever, the loss by friction and the cut off by a given amount of lap. The second class certificate questions were unchanged except for the addition of a question on the weight of wrought iron. Greater emphasis was placed on the written papers, so as to encourage uniformity in the various examining ports.

52. Reed's Engineers' Handbook 1882. pp. 11-3.

There were other changes in the examinations, but these concerned the amount of time spent in service before sitting the examination. From the 1 January 1878, the extra examination could take place at the same time as the candidate passed as a first class engineer. The extra certificate was not to be issued until the candidate had served for at least two years at sea as a first class engineer. It was also permissible for time spent as a third class engineer to count as service as a second class engineer, as long as the vessel had more than three engineers. During the 1890s, there were attempts to introduce a third class certificate as on the Continent. (53)

The other aspect of the engineering examinations which caused some debate was the requirement that candidates for a second class engineer's certificate must have served three years apprenticeship in a place making or repairing engines. Later this was increased to four years (54) and there was some discussion at the North East Coast Institution of Engineers as to whether the period should not have been increased to five years as it was doubted whether such a short period was adequate to learn the basic mechanics and workshop practice. Any alterations to this requirement do not seem to have been made until after the period of this thesis.

The nineteenth century witnessed not only an increase

53. See Chapter 7.

54. See Chapter 7.

in the number of examinations, but also a greater reliance on them as a means of finding suitable and competent officers, civil servants or scholars. Admirals Rickard and Powell, Captain A. Bethuen, Mr. C. Norwood and many others witnesses before the 1884 Royal Commission wanted the examination system extended to include a test for able-bodied seamen. The Final Report included such a recommendation, but emphasised that the examination should be practical and include compass work, steering, use of the lead and a colour vision test. Several experts were also eager that able-bodied seamen should have at least four years at sea. The Commission was even in favour of having examinations for boatswains; an idea that was taken up by 'Wanderer' in a letter to the Nautical Magazine in August 1894. He also wanted practical tests for carpenters and quarter masters. His ideas seemed to have gained support, for several witnesses, including J. Jeffries, before the 1896 Committee on Manning were in favour. Its Report noted that the seamen's representatives were eager to see such a proposal implemented, and linked it with a demand to limit the number of foreigners employed. A bill of 1897 (55) and Havelock Wilson's Bill (56) included clauses which required foreigners to pass an English Language test and tried to limit certificate holders to persons with British nationality. The latter bill would also have introduced examinations for able-bodied seamen, boatswains and donkeymen.

55. See P.P. 1897. v.135.

56. See P.P. 1899. vi. 158.

Another of its aims was that cooks, who held certificates from nautical cookery schools (57), would be given preferential treatment when applying for a berth in the galley. Wilson's ideas were not new, for the London Marine Board had introduced voluntary tests for able-bodied seamen in 1877. The candidates had to furnish proof of service and be examined in

'Lookout, colour blindness, lights and fog signals in use in steamers and sailing vessels at sea and at anchor. Soundings, How the leadlines are marked; to heave the lead. Helms terms. How to detect the movement of a ship's head by the horizon; compass; boats, rowing, sculling; general management. Sails, side stitching and repairing, putting stoppers on and cringles in; reefing, loosing, furling, bending and unbending. Rigging...splicing wire, hemp and (other) ...ropes and hawsers. To reeve purchases and tackles. To make bends and knots in general use. Spars' (58)

Those who worked on steamboats were not expected to understand the rigging nor be able to steer a vessel by the wind, but to have knowledge of splices, knots, bends, reeving, purchase, worming and marking a rope. The examination was mainly viva voce, but after the ordinary examinations had been completed, a man who wanted to show superior knowledge on any special subject, such as sailmaking, signalling, using patent log, or blowing the boatswain's call, might be given an extra examination and if successful, have it noted on the certificate. The able-bodied examination did have its critics and in 1878, a letter appeared in the Nautical Magazine from 'L.S.' which

57. See Chapters 3 and 7.

58. L.M. Rev. 1877. p.767-8.

claimed that the examination had made no perceptible difference in improving the efficiency of able-bodied seamen. The writer would have preferred a system of certificates of service which would have been awarded after several years good service. If a seaman committed a grave offence the certificate could be cancelled. By the late 1890s, such an examination would not have been suitable for sailors who worked on steamboats, as the old voluntary test would have been somewhat dated. It would have needed reforming; but if the system had been extended, it still ignored the main problem; the candidate who was competent yet failed because of nerves.

The case of nervous examinees was not raised with regard to seamen until the 1890s, but seems to have received little sympathy. The problem had been encountered earlier in the civil service examinations when a capable officer failed an examination to gain a permanent post and was forced to leave. Queen Victoria and Disraeli doubted the value of examinations, and their comments on the civil service examination could also apply to the examination of officers and engineers in the mercantile marine. They believed that examinations did not test trustworthiness, only knowledge, some of which was superfluous and quickly forgotten. Bolam would probably have agreed with them when he wrote,

'At the best, examinations are very imperfect tests of man's professional skill and ability and many of the finest qualities of the sailor-officer cannot be tested in the examination room at all.' (59)

The suggestion that candidates should be made to keep a book of problems, which they had worked whilst at sea, signed by the commanding officer, and presented to the examiners, seems to have fallen on deaf ears. This would, no doubt have ensured that candidates had put the little theory they had learnt into practice. It would have also ameliorated the situation with regard to 'cramming' and the need to use 'cram' schools before 'going up' for examinations.

To conclude, it would seem fair to comment that the educational requirements were much higher for a candidate to pass the voluntary examination introduced before 1850 than they were for the compulsory examinations. As the years passed, the latter examinations were often criticised for being antiquated, and not being based on a need to have an understanding of scientific principles. The compulsory examinations, it was claimed, encouraged empirical methods and 'cramming'. It was not until the very end of the nineteenth century that they were reformed, but even then only the voluntary extra master's examination was based on an understanding of principles. The hope that the compulsory deck officer's examinations would be reformed and based on the principles underlying the examination for marine engineers, proved ill-founded. Perhaps too much faith was placed in the examinations as a tool for assessing competency because they were often only a means of ensuring that officers had acquired some 'book learning'. Even the revised compulsory

examinations introduced in 1893 could be 'crammed' for, and even though the Government condemned the practice, it did little to encourage a proper education system involving schools for seamen. For most of the nineteenth century, nautical schools were organised by proprietors for their own financial reward and not for any higher motive.

CHAPTER 5.

PROPRIETARY SCHOOLS 1830 TO 1910.

The 1836 Select Committee suggested the establishment of 'cheap nautical schools', but the Government was reluctant to take such a step. It maintained this stance throughout the nineteenth century, except for the period 1854-1862, (1) but the experiment was short lived, so the field of nautical education was left to private enterprise.

During the years before the Select Committee reported, the fashion seems to have been for teachers to add navigation to their schools' curriculum, so any seamen or apprentices who required such teaching would attend with the boys already in the school. T. Scott, H. Bennett and J. Richardson, all of South Shields, added nautical subjects to their programmes of study. Later in the 1850s, Purves of Chester-le-street, and in the 1870s, Grieve of Sedgefield included it, possibly as a means of attracting more scholars. With the inauguration of local examinations in Sunderland and South Shields in 1837 and 1838, the demand for such courses increased and a distinct type of school for seamen developed. (2) Questions such as who organised these schools and where were they held spring to mind. At first, evidence in some local trade directories suggested that the proprietors were aged or invalid seamen, who held schools in their homes, and that most of the schools were 'cram' shops, as they could not afford a lot of equipment. These hypotheses will be tested when considering

1. See Chapters 2 and 6.

2. See Appendix XI for a complete list of proprietary schools.

the specialist schools established in the north east ports of Newcastle, Sunderland, North and South Shields, and Blyth.

As to the view that seamen were proprietors, evidence suggests that this was not the case in the north east. Of the fifty two known teachers who ran schools of their own or in partnership during the period 1839 - 1903, only fourteen or 26 per cent had been to sea in some capacity on deck or in the engine room. If we divide the schools into two groups; nautical or navigation schools and engineering schools, we obtain the following figures. Of the forty four known nautical teachers, only thirteen or 33 per cent had sea experience, while of the known engineering teachers, only one is definitely thought to have gone to sea and two others are believed to have some experience of the engineering workshop. Such figures suggest that the majority of proprietors had no sea experience or at most, their contact had been through other members of their families, as in the case of James Grieve of Sedgefield whose brother was a master mariner, but we do not know if he assisted in the school.

If we consider Hull and Leith, the situation seems to have been somewhat similar. G. Fullam's father had been the master of Hull Trinity House School, so the family had a long tradition of teaching seamen. However, only Commander Jones is definitely known to have gone to sea, as he was in the Royal Navy. In Leith, J. Symonds was also an ex-Royal Navy master, while T. Cregan was a former master mariner and J. McEwan held an extra chief engineer's certificate.

Another teacher, T. Lockie, is described as an engineer fitter in one census, but there is no evidence as to whether he had been to sea.

Of those nautical teachers who had been to sea and later taught in the north east ports, seven are described in various documents as 'captain'. This group included William Cockburn, who had twenty one years service as a commander in the India and China trade, George Haig and William Bergen, who were both teaching around 1880 in Sunderland. The details of two other captains who taught in the town have also been ascertained. According to the Sunderland Technical Education Minute Book for 1899 - 1902, S. C. Mence held an extra master's certificate and the successor to his schoolroom at 37 Fawcett Street, Charles F. Watson also held a certificate of the same standard.

In South Shields, only William Bowery Duncan held an extra master's ticket. He had begun his teaching career as an assistant in the South Shields Marine School and later opened his own school in 1882 or 1883 in his home at 2 Wesley Street, where the atmosphere could hardly have been conducive to study as he had seven young children, so within a year, he moved his school to 80 King Street.

A final teacher to hold the title was Edward Marshall of North Shields. His advertisements included it, but little else is known about his qualifications, except that he must have been away when the 1871 Census was taken, as only his wife is listed.

Plate V.

Advertisement for C. M. Swainston's School and
a photograph of the premises he shared with
J. J. Wilson.

Source: Reed's Tide Tables 1901.

REED'S TIDE TABLE



**LOCAL MARINE BOARD
EXAMINATIONS**

CANDIDATES - -

For any of the above Exami-
nations prepared at - -

C. M. SWAINSTON'S

NAUTICAL SCHOOL

18 HUDSON ROAD, SUNDERLAND

Special Lessons on DEVIASCOPE

OUT of the last 41 **EXTRA MASTERS**
who have been successful, 29 pass-
ed first time, 9 the second and
3 the third.

GENERAL ADVERTISER

J. J. WILSON & SON

MAKERS AND ADJUSTERS OF

IRON SHIP'S COMPASSES

CHRONOMETERS RATED

GREENWICH TIME DAILY at 10 a.m.



19 HUDSON ROAD, SUNDERLAND

107 BUTE STREET, CARDIFF

AND PACK VIEW ROAD, BARRY DOCKS

Postal & Telegraphic Address, WILSON, OPTICIAN, SUNDERLAND

Telephone: 178 SUNDERLAND

One other well-educated teacher was Christopher Swainston, who went to sea at the age of fourteen and spent three years on board ships. He was then injured and spent several months in the South Shields Marine School receiving an education in mathematics, navigation and astronomy, possibly up to the level required to pass as an extra master.

Of the other schools organised by seamen, there are few details. Richard Crick of Sunderland described himself as 'being a practical seaman...That very fact has been the cause of his great success' (3)

we know no other details of Crick's qualifications as a teacher or as a seaman.

Another man who had been to sea was James Lackland, who had served on a whaler prior to opening a school possibly in 1826 or a little earlier. As to the capacity in which he served, nothing is known, but James, possibly, went to sea in 1807, shortly after being orphaned.

In Blyth, Martin Dobson opened an academy on Crofton Road in 1887. He was the son of Thomas Dobson, headmaster of the South Shields Marine School (4) and the school records show that he had been to sea as an apprentice on board the Devitt and Moore ship 'St. Vincent'. He returned to the Marine School to study for the Board of Trade Examinations before moving north.

3. Reed's Tide Tables 1859. p.64.

4. See Chapter 6.

The remaining two teachers had slightly different backgrounds, for they had been in the Royal Navy. The first was Charles Hopkin of North Shields, but it has been impossible to ascertain when his academy opened or closed. He is first listed in a local trade directory in 1822 and it is possible that he had already been teaching for several years by that date. The school seems to have closed by the time of the 1841 Census and he is not listed in any of the directories published in the 1840s. It could be argued that he should not be included in our survey as the school could have closed before the period covered by this thesis. However, it is also possible that Hopkin was teaching in 1840 and closed only shortly before the census was taken.

The final navigation teacher who definitely had sea experience was William Pennington, whose academy was in Newcastle. According to the 1851 Census, he had been a 'master, Royal Navy' and it seems that he began teaching in the early 1840s. His school was first listed in Williams' Directory for 1844, but is not included in any of the directories published after 1850. No doubt Hopkin and Pennington felt their Naval backgrounds gave them some advantage over their competitors, as officers in the Royal Navy were better educated than their counterparts in the mercantile marine.

For most of the 1850s and 1860s, few of those teaching were seamen and it was not until the 1880s that the number

of ex-seamen, who taught, increased. Even then the majority of teachers had never been to sea and that seems to make ridiculous Cockburn's claim that

'The second day of the examination now specially requires a sailor teacher' (5)

The teachers in the engineering academies seem to have been somewhat more practically trained. Thomas Southern was

'for a number of years an engineer on the Frances-Fenwick steamers' (6)

and he seems to have held an extra first class engineer's certificate. We know less about two other engineering academy owners, who could possibly have gone to sea.

Michael Metcalfe had been connected with shipping for many years, for

'After qualifying and serving as a chief draughtsman with Messrs. Carr and Fowles, Metcalfe held the position in Falmouth with Messrs. Cox...In the 1880s he was connected with Messrs. Kish and Stockdale... for whom he acted as superintendent engineer' (7)

It would seem safe to assume then, that if he was an engineer for a firm of shipowners, he must have held some sort of certificate of competence or received a very thorough training on shore and according to the 1871 Census, he was as apprentice engine-fitter, the same occupation as his brother Cuthbert was to follow ten years later.

5. Reeds Tide Tables 1873. p.38.

6. Sunderland Echo 12 June 1931.

7. ibid. 16 February 1920.

Some doubts also exist about William English Thompson's background. In Bergen's Marine Engine And Guidebook to the Board of Trade Examinations, an advertisement stated that

'Thompson had twenty years experience as an engineer and twenty two years experience as a teacher of engineering' (8)

The advertisement is undated, but his school is first listed in Ward's Directory for Newcastle and North and South Shields published in 1883-4.

Little is known of the backgrounds of the teachers with no sea experience, but a small group were trained by the Science and Art Department. J. J. Stiles and W. Thorn, Snr., (9) began their teaching careers in Board of Trade assisted schools at Sunderland and Newcastle. Alston Kennerley in his thesis noted that it was common for Board of Trade school teachers, nationally, to establish their own schools as it was more remunerative.

Three of the engineering teachers seem to have been academics. Henry Evers was educated at Old Winford Hospital, Stowbridge and Cheltenham Training College, before teaching in a number of schools and his

'career is a splendid tribute to the value of individual effort. With no teacher or text book, his success as a teacher could only be obtained under most serious difficulties.' (10)

His interests included steam and he passed the teacher's certificate in seventeen subjects with two gold medals.

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8. Bergen's Marine Engineer and Guidebook to the Board of Trade Examinations. 10th Edition.
 9. See Chapters 2 and 6.
 10. Science and Art pp83-4. Local Biography. Vol.3. Newcastle Central Library.

William Henry Thorn, junior, who had a school of his own in 1883 at the same address as Reed's the publisher and chartseller, was a Government Certified Teacher of Drawing. No other details of his qualifications have been discovered, but we can be certain that this Sunderland branch school was in existence for only a short time, as after only a few months he returned to help his father in North Shields.

Thorn's school in North Shields is interesting because it is one of the few schools that added an engineering department. Before the publication of Ward's Directory of 1885-6, it was always described as a navigation school, but after that date it was reclassified as a 'nautical and engineering school'. As the years passed, it seemed to concentrate on educating engineers, for an insert in Reed's Engineers Handbook to the Local Marine Board Examinations mentions only the preparation of 'pupils for passing the engineers' examinations' (11)

One other school in the region which managed to evolve in the same way was that organised by J. J. Stiles in Sunderland. Upto 1880, he was listed as a navigation or nautical teacher, but in Ward's 1881-2 Directory, he was described as owning a 'nautical and engineering school.' It continued to perform this dual function until 1893, when it reverted to a navigation school in Tel-el-Kebir , Sunderland.

None of the schools in Leith managed to change in the same way, but in Hull, A. Somerscale added an engineering division

11. Reed's Engineers Handbook etc. Insert.

in 1897. His interest in the subject developed from a hobby. What is interesting is that in Leith, A. Anderson and James Pryde(II) whose school operated in the 1890s, held Master of Arts Degrees. In Hull, the highest academically qualified teacher was A. Somerscale who held a Science and Art Department Gold Medal. Such evidence concurs with Captain H. D. Cooke's belief that nautical schools were kept by 'exceedingly clever men' (12)

Of the group of ex-seafarers who turned to teaching, Pennington seems to have been the oldest. He gave his age as seventy when the 1851 Census enumerator called, which would have meant that he was sixty three when his academy was first listed in Williams' Directory for 1844. Two other teachers were of a similar age when their academies were first opened; William Bergen would have been sixty two in 1879 and Edward Marshall of North Shields would have been seventy one when his academy was advertised in 1901. The ages of five other ex-seamen turned teachers have been discovered and shown in the table below.

12. See Shipmasters' Society Course of Papers. No. 28. 19 October 1893. p.31.

TABLE XI

Ages of Nautical teachers with sea-going experience, on being first listed in the local trade directories for Sunderland, Blyth and South Shields, 1834 - 1902.

<u>Name of Teacher</u>	<u>Age on first listing.</u>	<u>Year of first listing.</u>
Cpt. W. Cockburn	47	1871
M. Dobson	25	1887
W. Duncan	46	1882
J. Lackland	30 or 31 (13)	1827
C. Swainston	20	1883

Source: Census Returns for 1841-1881 and the local trade directories.

The average age of the teachers in our group of ex-seafarers who worked in the north east ports is forty five, while in Leith, it was forty nine, but only the ages of two of the teachers are available. Symond's academy was first listed in 1857 when he would have been forty three. J. McEwan was first listed in 1892 as working at Lockie's academy, when he would have been fifty four. The average age of forty five is not now considered to be particularly old, but if we consider the conditions of life at sea in those days, perhaps few seamen managed to stay alive for that long.

13. Mr. K. Boccock, Lackland's great great grandson, believes his ancestor started teaching in 1822 in a cottage owned by the Congregational Church. That means Lackland would only have been in his twenties when he started teaching.

The average age of the north eastern group of teachers, who had not been to sea, is thirty eight. Many of this sub-group were younger than the average and the ages of sixteen of them are shown below.

TABLE XII

Ages of teachers, without sea-going experience, on being first listed in the trade directories for North and South Shields, Newcastle, Sunderland, Durham and Blyth as owners of nautical schools, 1834 - 1900.

<u>Name of teachers.</u>	<u>Age on first listing.</u>	<u>Year of first listing</u>
T.L.Ainsley (14)	21	1846.
A. Baharie	41	1834.
E. Brown	35	1864.
J. Coulson	54	1844.
B. Crick	21	1865.
G. Gibson	32	1877.
T. Grey	56	1857.
J. Grieve	62	1878.
J. Harper	41	1827. (possibly (earlier
J. Harrison	40	1850.
J. Major	42	1873.
T. Maughan	34	1861.
J. J. Stiles	28	1863.
E. Temple(father)	36	1846.
T. Temple(son) (15)	27	1864.
W. Thorn	36	1871.

Source: Census Returns 1841-81 and the local trade directories.

14. Ainsley is included in the 1841 Census as apprentice teacher, aged 17. He probably helped John Harper, his own teacher.
15. Probably had assisted his father, Edward, before opening his own school.

The age of J. J. Stiles of Sunderland is open to question as there seems to be some debate as to when he opened his own school. He is first listed as an owner in Barnes Directory for 1866, but advertisements in Reed's Tide Tables give the impression that he left the Sunderland Board of Trade Navigation School in 1864. It is possible that he resigned when the school ceased to be funded by the Science and Art Department, but his name still seems to have been linked with the school, for Whellan's Directory of Northumberland and Durham for 1865, gives his name as headmaster. Given that directories, especially those covering large areas were often inaccurate, one can only assume that this must have been an error. Later, Stiles seems to have changed the nature of his school, adding on an engineering division when he was forty five. Anthony Somerscale of Hull did the same thing when he was the same age.

As to the ages of the navigation teachers in Hull, little has been discovered. Somerscale opened his school in 1876, when he was twenty four; while Thomas Dalton was possibly four years younger when his school was first listed in Pigott's Directory of Hull for 1834. The oldest in the subgroup was George Fullam, whose school was first listed in White's Directory for 1858, when he would have been forty two. The average of the three is thirty one, but this is not very informative, as the ages of the remaining four teachers are unknown. The teachers in Hull seem, generally, to have been younger than the teachers in the north east. What is

interesting is that throughout the nineteenth century, there were only seven teachers of navigation and marine engineering in Hull, which would suggest that there must be a correlation between the number of schools and the size of the port.

In Leith, the ages of several navigation teachers have been ascertained and are shown in the table below.

TABLE XIII

Ages of Navigation teachers in Leith on being first listed
in directories, 1822 - 1900.

<u>Name of Teacher.</u>	<u>Age on first listing.</u>	<u>Year of first listing</u>
T. S. Forman	35	1857.
J. Lockie (16)	29	1882.
J. Pryde I	35	1841.
J. Pryde II (17)	59	1893.
T. Scotland	27	1821.
J. W. Scrymgeour	49	1845.
A. Sime	57	1849.

The ages of J. Finlaison and D. Scrymgeour have been ascertained but not included, as the former taught a variety of subjects including mathematics, while D. Scrymgeour, the son of J. W. Scrymgeour, ran a classical academy.

Source: Census Returns 1841-91 and the local trade directories.

16. Engineering and navigation teacher.

17. J. Pryde II was possibly the son of the J. Pryde I but their relationship is unclear.

The average age for this group is forty one, which is only three years greater than the average for the same group of teachers working in the north east ports.

As to the ages of the engineering teachers, the average on opening a school was thirty six. The oldest was H. Evers, who was sixty six when his school was first listed as an engineering academy, though he had been listed for many years as a 'Professor of Science'. The youngest was William Thorn, junior, who was only twenty five when his branch school opened in Sunderland. The other teachers were in their thirties when their schools opened; William Thompson was thirty seven, T. Southern, thirty two and Michael Metcalfe, thirty four. Southern's reason for wanting shore employment was probably connected with the fact that he had married Stiles' daughter. When Metcalfe's academy was first listed in 1887, his brothers Cuthbert and Alfred were thirty two and twenty seven respectively. Cuthbert had been teaching classes at various evening schools in 1879 and Alfred was to engage in the same activity from 1892. Their relationship with Metcalfe's School is unclear.

The average age of the ex-seafarers on opening an engineering school was thirty four, while those who had never been to sea were on average aged thirty six. This last figure was due to the advanced age of Evers on re-organising his school. It seems then, fair to conclude that the north eastern port proprietors were not particularly

old when they began teaching. The same seems to have been true in Hull and Leith, where James Lockie taught navigation from 1882. He also taught engineering and was helped by his father Thomas, who was fifty eight in 1885.

Perhaps then the belief that nautical school proprietors were usually elderly arose because the teachers continued to work until an advanced age. One teacher to do so was Alexander Baharie of Sunderland, who was seventy eight when his academy was listed for the last time, which would have meant that he was two years older than William Thorn, senior, when his was listed for the last time in 1911. However, it is possible that the elder Thorn was already dead by that date, but no information concerning his demise has been discovered. If he was already dead, the academy could have continued under the patronage of William, his son, but a notice appeared in the Shields Daily News on 28 December 1899 announcing the death of one William Henry Thorn at the age of thirty seven. The W. H. Thorn, junior, who was a navigation teacher, would have been aged forty or forty one if we use the data in the 1881 Census. It is then possible that the younger Thorn could also have died, leaving his father, if still alive, or his own son to continue the business. The 1881 Census informs us that Thorn, junior, had a son, William Thomas Thorn, aged one month and if this young man had continued the business, he would have been thirty when the school was last listed. It seems possible that William Thomas Thorn did enter the family business for Newcastle Central Library has a copy of some marine turbine engine drawings compiled by a man of the same name and published by

Reeds, probably in 1910.

The ages of the other local teachers when their academies were last listed in the trade directories are given in the table below.

TABLE XIV.

Ages of Local teachers when their academies were last listed in the directories for North and South Shields, Durham, Blyth and Newcastle 1844 - 1905.

<u>Name of Teacher:</u>	<u>Age on last listing</u>	<u>Year of last listing</u>
T. Ainsley	66	d.1890.
W. Bergen	68	1879.
E. Brown	44	1873-4.
J. Coulson	63	1853.
B. Crick	30s	1873-4.
w. Duncan	69	1905.
(may have continued private tuition in own home after 1899).		
H. Evers	76	1907.
(possibly assisted by his son who was a marine engineer).		
G. Gibson	30s	1881.
T. Grey	60	1861.
J. Grieve	70	1890.
G. Haig	68	1880.
J. Harper	68	1856.
J. Harrison	40	1850.
J. Lackland (18)	40+	late 1830s.
John Major	46	1877.
E. Marshall	70+	1900s.
T. Maughan	30s	1867.

18. See below.

TABLE XIV (contd.)

<u>Name of Teacher.</u>	<u>Age on last listing</u>	<u>Year of last listing</u>
M. Metcalfe (19)	66 or 67	d. February 1920.
W. Pennington	70	1851 (census)
T. Southern (20)	69	1930.
J.J. Stiles	62	1897
C. Swainston (21)	63	1931
E. Temple	76	1886
T. Temple	37	1875
W. E. Thompson	74	1920

Sources: Census Returns, obituaries and local trade directories.

It is possible to discern that quite a few of the teachers were elderly when they stopped working, but the reasons why young men should have given up teaching are obscure. Perhaps they moved away from the area, like Mence of Sunderland who went to London, or returned to sea or they were in ill health and died. We cannot be certain and there seems to be little chance of finding out, as records are scanty or non-existent. One teacher is thought to have changed profession, for a Bambridge Crick is listed as an accountant in the Post Office Directory for Northumberland and Durham for 1879. Possibly Bambridge was a misprint for Bainbridge, the first name of the teacher. Whether any others changed profession, it has not been possible to discover.

-
19. If Cuthbert was still alive he would have been 64, while Alfred, who had an engineering academy during the years after 1910 and during the late 1930s, would have been in his fifties.
 20. T. Southern continued working until only a few months before his death. See Sunderland Daily Echo 12 June, 1930.
 21. Gave up teaching on account of ill health. Died in December 1936.

In Hull, Somcerscale continued his work until 1924 and then received pupils in his own home until his death in 1939 at the age of eightyeight. Dalton's academy was last listed in 1859 and by the time that Kelly's Directory for 1861 was published, he seems to have died. If we assume that he gave up teaching in 1860, it means that he would have been fifty four. As to G. Fullam's fate, there is a mystery, for he is listed in the directory for 1867, but not in those for 1872. He is thought to have published a book, A Handbook to the Humber in 1868, which is the only evidence that exists for his surviving. If we assume that he died in 1868, he would have been fifty two. Once again, one can see that some of the teachers did live until they were quite old.

The situation in Leith can be ascertained from the following table and it seems to have been very similar to that in the north east ports.

TABLE XV.

Ages at which teachers in Leith were last listed as academy owners in the local directories for Edinburgh and Leith,

1840 - 1902.

<u>Name of Teacher</u>	<u>Age at last listing</u>	<u>Year of last listing</u>
T. S. Forman	56	1878-9
J. Lockie	64	1916-7
T. Lockie (22)	62	1889
J. McEwan (23)	54+	1890s
J. Pryde(I)	35	1841
J. Pryde(II)	81	1915

22. Assistant to his son, J. Lockie.

23. Assistant to J. Lockie.

TABLE XV (contd.)

<u>Name of Teacher</u>	<u>Age at last listing</u>	<u>Year of last listing</u>
T. Scotland	61	1855
J.W.Scrymgeour	50	1866
A. Sime	75	1867
J. W. Symonds	47	1861

Source: Census Returns 1841 - 91 and the local trade directories.

Perhaps to the young men who began their seafaring careers in the early years of the twentieth century, many of the proprietary school teachers did seem to be quite elderly, but it has to be remembered that they were once young and many had started their teaching careers at an early age.

Were the proprietors of specialist sea schools injured seamen? This can be more easily dismissed for of the fifty two known teachers in the north east, only three were definitely known to have been maimed in some way. One was James Lackland, who was described by Hodgson in his Borough of South Shields, as an

'old whaler, crippled by frostbite' (24)

The second person was Edward Brown of South Shields, who is described in the 1871 Census as 'maimed in an accident' but no further details of his injuries are known and we cannot

24. G. Hodgson. Borough of South Shields 1903. p.416.

be certain whether Brown was injured on board a ship or if he had been to sea at all. If he had not, then only two teachers can be described as injured seamen. The other was Christopher Swainston, who was injured when a boom of a boat caught him whilst he was emptying a bucket. His wrist was badly gashed and his arm swollen, so the captain bandaged it. When they arrived back in the River Tyne, Dr. Crisp decided it was necessary to amputate, thus ending Swainston's sea-going life.

Mention must be also made of the sons of Captain Nellist, a teacher in Ainsley's academy, who established his own school in 1906, and later moved to Newcastle. His sons William and Jack both went to sea for a short time, but on going up for the Board of Trade Examinations, they were found to be colour blind. Thus they were forced to find some other means of earning a living and so they turned to teaching seamen.

It, therefore, seems safe to contend that this part of the hypothesis is false, while the evidence from Hull and Leith suggests that the same conclusion can be safely drawn about the situation in those ports. There can be little doubt that the reason for teaching was that being a nautical school proprietor was lucrative.

Some of the advertisements contain details of the fees for a course of instruction. In 1857, Alexander Baharie of Sunderland made the following charges:

Second Mate 15s. Od. Second and only mate. £1
First Mate £1. 5s. Od. Master £1. 10s. Od.
First Class Extra Masters £1.10s.Od. Steam 10s. Od. (25)

During 1855, he claimed that he had educated two hundred and ninety seven candidates, so he must have made quite a profit as his only expenditure would have been heat, light and rent.

Twenty six years later, the fees charged at Thorn's branch school at Sunderland were shown in an advertisement

'Extra 1st class engineer -£3 1st.class Engineer -£2
2nd class Engineer-£1.10s. -
Steam(master or mate)-£2 Master £2. Mates-£1. 10s.
Second Mate-£1. 5s. Compass Deviation-£2. (26)

Such amounts suggest that there had been an increase and a further increase seems to have been made by 1902, for the following scale was given in their Book of Useful Formulae;

'2nd class Engineer.-2 guineas. 1st class Engineer.-3 guineas
Extra 1st Class Engineer-4 guineas
Indian Naval.-5 guineas. Board of Trade Surveyor-4 guineas

As to the numbers attending, no details are given but again it seems that Thorn and Son taught hundreds of pupils, though Markham in his report for the Royal Geographical Society notes that few boys and apprentices attended.

Swainston in his school charged £1. 10s. for a second mate's course, 2 guineas for a master's and £1. 16s for first mate. The first candidate he taught was charged three guineas,

25. Wards Directory of North and South Shields, Sunderland and Newcastle 1857. Advertisement Section.

26. Reed's Tide Tables 1883.

but when he found that another teacher charged only two guineas for the same course, Swainston returned one guinea. In his memoirs, Swainston notes that he averaged nine candidates a month, which would have earned him enough money to support his family.

In Leith, Lockie's academy obtained 2500 passes during the period 1882 - 1902, but no details are given as to the scale of fees. Somerscale of Hull taught for over fifty five years and during that time he had over 5000 names on his register, yet nothing is known of how much he charged each pupil. The situation regarding other north eastern teachers is the same, but they hint in their advertisements how the fees were calculated. Richard Crick claimed that

'The terms will vary in proportion to the knowledge a seaman has attained in navigation before entering the school' (27)

Some schools may have adopted a system like the one used at the Sunderland Board of Trade Navigation School, where the candidates had to pay a sum on entering the school and another sum on passing the examination. An advertisement in Reed's Tide Tables for 1865 set out the terms as being

Master or 1st class Engineer-15s. on entry
-15s. on passing.
Mate or 2nd class Engineer...-10s. on entry
-10s. on passing. (28)

It has been impossible to ascertain how many, if any, proprietary schools adopted this system of payment. However, one local school, went as far as to

27. ibid. 1858. p.64.

28. ibid. 1865. p.21. see also chapters 2, 6 and 7.

'guarantee to pass any seaman for master in six weeks, and for a mate in four weeks, if he clearly understands the first four rules in arithmetic or make no charge' (29)

Whether other nautical schools introduced their own system of payment by results, it seems unlikely. Crick may have included the conditions in his advertisement only as a means of attracting students. The tone of the advertisement is very much in accord with Mr. W. Roche's evidence to the Royal Commission on the Loss of Life at Sea;

'At the present time, they go to school for perhaps one month or two months or even three months (and many men are very ignorant when they start) to pass the board...and afterwards they do not care anything more about it' (30)

The success of a school in attracting students was the most important factor in ensuring its financial viability and continuation. Given that many ships used the north east ports, there should have been a sizeable market for the schools and this may account for the fact that many of the navigation teachers were born in other parts of the country and moved into the area. (31) This does not seem to have been the case in Hull, for Dalton, Fullam and Somerscale were all born in or near the city. The situation in Leith seems to have mirrored the north eastern proprietors more closely, for only T. Scotland was born in the port. The other teachers moved into Leith from either other parts of Scotland or from England. (32)

29. ibid. 1858. p.58.

30. Final Report of the Royal Commission on the Loss of Life at Sea 1887. xliii. c5227. q.20211 p.305.

31. See Appendix XII

32. See Appendix XII

Once a school had built up a good reputation, many seamen would make use of it, for it seems that a school's reputation depended on the good will of its former clients and not on the number of advertisements in newspapers or nautical publications. Very few advertisements have been found in the newspapers published in the north east ports or in Hull. The need for a good reputation was noted in an advertisement for Lockie's academy, Leith, which stated that

'Instruction is most thorough and is without doubt the cause of it being so largely patronised and so highly spoken of by engineers generally' (33)

No doubt in the dogwatch, the efficiency of many schools would be discussed and many young men would ask the advice of their elders as to which was the best school.

Another factor that may have attracted students was the fame of the teachers in other fields. Stiles of Sunderland was active in politics and his name was frequently in the papers. Captain Marshall of North Shields was a councillor on Tynemouth Council for thirteen years and he showed an interest in improving seamen's lodgings. Both were locally well known, and no doubt benefited from the publicity, but some schools did experience difficulties in attracting enough clients to make them financially viable.

It seems that some schools were so desperate to attract customers that their proprietors must have visited newly arrived vessels or sailors' lodgings. Such happenings

are hinted at in an advertisement for J. G. Campbell's Marine Engineering Academy, Belfast, which stated that

'the attendance of candidates is never solicited...by seeking personal interviews nor by written communication' (34)

Whether any of the local teachers used such means, it has been impossible to ascertain. However, it does imply that the choice of location for a school was very important, and it seems safe to assume that schools located near the docks or haunts of seamen or on a main thoroughfare must have had some advantage over their competitors, who had premises in narrow back streets. Ainsley's of South Shields was located in the Market Place and later in the Mill Dam near the quay and the examination rooms. Thompson's academy in Borough Road, North Shields, was only a short distance from the Sailors' Home, while Stiles was next door to the Seaman's Mission Institute when he was at 196 High Street East, Sunderland. Baharie's school was also located near the docks when he was in Lawrence Street.

The same also seems to have been true in Leith and Hull. Dalton's school in Sykes Street was near the Queen's Dock, and Fullam's at 13 Osborne Street was not far from the Humber Dock and the Prince's Dock. Bean and Jones both had premises in Dock Street, while Symington's was located in Prince's Dock Street. Horne's School was near the railway station, which was no doubt good for business. In Leith, Scotland's, Forman's, Lockie's and Cregan's were all near

the quay, while J. Scrymgeours, Symonds and Finlaison had schools in the centre of Edinburgh.

Once a school had established itself, it was possible for it to exist for many years. Baharie's lasted from 1834 until 1872, while Stiles taught from 1863 or 4 until 1897. The Thorn family had a school in North Shields for over forty years, as did William English Thompson. Ainsley's also seemed to exist in name for over seventy years, while Southern's and Metcalfe's operated for over thirty years. T. Temple's lasted about eleven years, but it was closed prematurely by the owner's death.

In Sedgefield, Grieve's academy included navigation in its curriculum for over twelve years, though his school existed for an even longer period of time as a commercial academy. Further south in Hull, Somerscale's school lasted from 1882 to 1924 and then he continued to receive pupils in his own home. The second longest lasting was Dalton's, which existed from 1834 to 1860. The situation in Leith seems to have been similar. T. Scotland's lasted for over thirty years, while Lockie's, Pryde II's, Foreman's and Simes all functioned for about twenty years.

Perhaps the difficulty was becoming established and gaining a reputation for many schools of navigation managed to exist for only a short time. In Sunderland, W. Chapman's, J. Harrison's, J. Currie's, G. Haig's and W. Thorn's branch school are known to have existed for only brief periods of time, as they are listed in only one directory or in the case of Thorn's have been shown to have moved to another town.

In North Shields, the situation seems to have been slightly less fluid, for of the nautical teachers known to have taught there in the nineteenth century, two were listed in only one directory; T. Haig was included in that of 1854-5 and E. O'Kune in Ward's of 1851. E. Marshall's school which was advertised in the Shields Gazette in 1901 is also thought to have been of short duration given Marshall's advanced age. Evidence concerning Marshall's career as a teacher is very scanty.

A few miles up the coast at Blyth, one of the three academies, Martin Dobson's, existed for only two years from 1887 to 1889. It then disappeared and nothing is known of his subsequent career.

The situation in South Shields seems to have been somewhat different, for there were only two academies of short duration in the town. Major's is listed only once in Kelly's Directory for 1873 as teaching navigation, though it is listed on other occasions as a commercial academy, and T. Liddle's school at 10 Cleveland Street was listed in Ward's Directories for 1885-6 and 1887-8. He then was not listed for several years and the next time that his name was mentioned was in the twenty fourth edition of Ainsley's Engineer's Manual of the Local Marine Board Examinations, published in 1892. It seems that by then he must have closed his own school and assumed responsibility for Ainsley's Nautical Academy. On the title page of the book, Liddle is described as being the school's headmaster, and it is possible that he was appointed when Ainsley died in 1890.

It has not been possible to ascertain for how long Liddle was employed as a school teacher, but it seems probable that he resigned during the late 1890s and he was last listed in Ward's Directory for 1899-1900 as a compass adjustor residing at 51 Baring Street. The reason for the change in occupation is unknown, but it is possible that by the end of the nineteenth century compass adjusting was a better paid occupation with better prospects than being a proprietor of a nautical school.

In Leith, only three academies were of short duration those owned by J. Fryde(I), which was listed in the Post Office Directory for 1841-2, J. Scrymgeour's in that of 1845-6 and T. Cregan's which is included in the Post Office Directory for 1893-4. J. W. Symonds lasted for four years, but all the others lasted over a decade. The situation in Hull was similar, with only Bean and Jones being listed in one directory. Symington's and Horne's were of somewhat longer existence, being listed between 1892 and 1895.

Of the fifty-two known teachers of navigation and engineering in the north east ports, sixteen are known to have begun teaching before 1850 and of the sixteen, eleven opened in the 1840s or 1850 when the demand for academies would have been greatest. Between 1851 and 1860, six teachers opened schools, followed by five more during the next decade. A further eight schools were organised in the 1870s, possibly

because of the interest aroused by S. Plimsoll. The turning point for navigation schools seems to have been around 1881, for after that date few such schools were established in the north east ports. During the period 1881-90, only five teachers opened nautical schools and one of these, Thorn, junior, subsequently became interested in teaching engineering. The same decade also witnessed Stiles branching into the same field and Thompson and Metcalfe opening engineering academies. Two further engineering academies were established in the 1890s, while the same decade saw the opening of two navigation schools. After 1901, Watson, Nellist and Softley were the only men to establish navigation schools.

In Hull, there was one private school before 1850 and another was founded before 1860. Between 1867 and 1890, three were founded, one of which later showed a bias towards educating engineers. Another engineering academy was founded in 1892 and the same year also witnessed the foundation of a navigation school. After 1900, only one school was founded, which lasted until 1929. It is hard to see a trend in Hull similar to that discovered in the north east ports, possibly because the field of nautical education was dominated by Hull Trinity House School in the nineteenth century. The situation in Leith was slightly different, with four schools being opened before 1850 and only two being opened between 1851 and 1860. The field of nautical education then seems to have been dominated by Leith Trinity House School until

1882, when Lockie opened his engineering academy. Three schools then opened in the 1890s and none opened after 1900.

The chances of the proprietary schools continuing seems to have been linked with the strength of the local institutional navigation school, with whom they had to compete. In the north east ports, the main competitor was the South Shields Marine School (35), which opened in 1861 and offered free education. Many of the fee charging schools must have found it difficult to compete and there was a drop in the number of navigation schools in South Shields. During the years upto 1850, there were five proprietary schools in the town, of these two continued into the 1850s and were joined by one new school. After 1861, only the Marine School and Ainsley's existed in the town, except for a time in 1864 and between 1871-4 when they were joined by E. Brown's. Later Liddle's school opened between 1885 and 1888 and Duncan's existed between 1882 and 1905, so the Marine School certainly seems to have dominated the field of nautical education in South Shields. Even when it introduced a fee, only Duncan and Ainsley were its competitors and no new schools of navigation opened. During the period of Dobson's headmastership, when the Marine School was said to be in decline, only Duncan and Liddle took advantage of the situation.

35. See Chapter 6.

Once the Marine School's reputation had spread, the same depression seems to have affected the nautical teachers in the nearby ports. During the period 1827-1850, there were five nautical schools in Sunderland, two of which continued into the 1850s and were joined by three new ones, one of which was the Board of Trade Navigation School (36) - another institutionalised school. Three others opened between 1861 and 1870 and six between 1871 and 1880, so it seems that the Board of Trade Schools also discouraged private enterprise in the 1860s. After 1885 only Mence and Swainston opened navigation schools and by the end of the 1890s, there were still only two such schools in the town. Again during the 1890s, the South Shields Marine School was in the ascendancy and after 1907, there were no navigation schools in the town of Sunderland.

North of the river in North Shields, the situation seems to have been the same. There were three navigation schools in existence between 1834 and 1850, while the next decade saw two new ones open, but all of them had closed by 1856, which left the town with no navigation schools until 1860, when T. Maughan opened a school, which lasted until 1867. After 1871, the town's nautical education was dominated by Thorn's school, and his: is the only one listed. There were, of course, many captains residing in the town, some of whom may have taken pupils without formerly declaring to the compilers of the local trade directories that they

36. See Chapters 2 and 6.

owned schools. It could, however, be argued that many of the older masters were too ignorant to teach.

Even Thorn seems to have suffered from the competition of the Marine School, for in 1883 or 1884, he started to concentrate on the education of marine engineers - a field left untouched by the Marine School. The same reason may have persuaded Stiles of Sunderland to enter this field of nautical education as well. Even though the South Shields Marine School and Sunderland Technical College offered courses for engineers from the early years of the twentieth century, most of the proprietary engineering academies in the north east ports continued to exist; so perhaps the institutional schools did not dominate the field of engineering education to the extent that they managed to dominate navigation teaching. In Leith and Hull, the same seems to have been true, but in all the ports, once a proprietor died, no new schools opened, leaving engineering education to the institutional schools. Also by 1918, it must have become obvious that engineering academies were no longer a lucrative source of income.

Doubts as to the profitability of organising proprietary schools can be seen in the fact that some teachers were involved in other business enterprises as well. One of the earliest and longest established school proprietors, Baharie, moved into the field of instrument adjusting. However, it has to be remembered that when his school first opened,

he taught only in the winter months when the ships were laid up. As the demand for education grew, he opened the school all year and then in 1853 he branched out again. By 1873, Christie's Directory lists Baharie as an instrument maker and no reference is made to his academy. From 1881, Baharie and Sons are described as being opticians and for a time Baharie's premises at 7 Lawrence Street were rented, in part, to Captain Bergen for use as a nautical school.

Swainston also had a partnership with a Mr. Wilson, who owned a nautical instrument shop. Wilson took a class for work on the deviascope and received five shillings for each full paying student. Wilson's aim was to get to know the pupils so that he could sell them instruments. No doubt seamen who called at the shop would also be advised to attend Swainston's School.

Ainsley began his business life as a navigation teacher with a school in Wellington Street, South Shields and he seems to have moved to the Market Place in 1857. It was probably then that he expanded his business into supplying navigation charts, books and navigational instruments. He also began to write his own textbooks and nautical almanacs, with his first guidebook to the local marine board examinations being published in 1856 or 1857 and by the beginning of the 1860s, he seems to have started printing his books as well. After 1870, most of the directories make only a brief mention of Ainsley's Nautical Academy, if they mention it at all, as greater prominence seems to have been given to his other

business activities.

Ainsley moved to larger premises and R. Butler's draft for an article on the firm includes the following description;

'In 1883, the business moved to the Mill Dam...On the ground floor was situated a large showroom together with store rooms and large display windows. Above the showrooms were two floors which contained the large classroom and masters' and mates' study classrooms...Beyond these rooms were large workshops and the printing department which in later years employed about six or eight printing staff' (37)

The fact that the school began to contract and became only a sideline is substantiated by the memories of J. Potter, who recalled that when he began working for the firm in 1903, the school occupied four rooms. However as the number of students fell, fewer rooms were used until only two were the school rooms.

James Lackland also seems to have expanded his business and became a printer, bookseller and stationer in the late 1830s. His reasons for this expansion are unknown and it is possible that he only continued teaching until the stationery business was firmly established.

Other teachers entered the field of publishing and bookwriting, including Captain W. C. Bergen, who wrote a book, The Practice of Navigation and Nautical Astronomy, which he himself published in 1872. Whether he had a school

37. Draft article later published in the N.M. Vol. 215. February 1977.

in Blyth, where the book was published, it has not been possible to discover. However, we do know that the book had entered its eighth edition in 1893 (if the information in Kennerley's thesis is correct) and that it had been written after a course of self tuition. Bergen had a shop in Saville Street West, North Shields and the Shields Daily News for 14 July 1873 stated that he was a compass adjustor, who sold charts, nautical books and gave

'instruction in compass deviation, by means... which show clearly to the mariner how an iron ship acts upon the needle'. (38)

Whether Bergen continued all these business activities when he moved to Sunderland, it has not been possible to ascertain. Evers, Stiles, Thorn, senior and the grandson, Southern, Michael Metcalfe and Swainston all wrote books of their own or revised editions of nautical publications. Evers wrote books on 'arithmetic, mechanics, navigation, nautical astronomy and steam' (39), while M. Metcalfe was the editor of Bergen's Marine Engineer's Handbook, but it has not been possible to cite an edition. W. H. Thorn, senior, and T. Southern compiled revised editions of Reed's Engineers' Handbook to the Local Marine Board Examinations. Swainston also wrote Reed's New Guidebook to the Local Marine Board Examination, published in 1903, and Reed's Seamanship and Young Mariner's Guide for 1896. J. J. Stiles also revised the twelfth edition of Reed's

38. Shields Daily News. 14 July 1873.

39. Science and Art op.cit. p.84.

Guidebook in 1891. Some forty years earlier, J. Harper of South Shields published A Treatise on the Practice of Navigation, Seamanship together with the adjustment of the sextant to enable candidates to prepare themselves to pass the examination, when there were probably few books on the subject and sold it to his pupils. In Hull, only G. T. Fullam seems to have written a book, A Handbook to the Humber, while in Leith, James Lockie gave a fifty page book, which he had written on engineering, to his students. He also wrote The Steamship in 1889 and Lockie's Marine Engineers' Drawing Book.

Stiles and his partner Saunders were listed in Ward's Directory for 1873 as being teachers and chartsellers at 154 High Street West, Sunderland, but five years later, the partnership seems to have been dissolved and only Stiles is listed as a 'chartseller and nautical instrument seller'. In 1883, the business seems to have evolved into a nautical opticians and it was to remain so for the next ten years, when Stiles reverted to being a navigation teacher.

A final local teacher who was to diversify his business interests was T. Maughan of North Shields, for in the Shields Gazette for 7 January 1861, the following advertisement appeared;

'Maughan's Navigation School. 168 Church Street, North Shields. Shipmaster's accounts made out and corrected on reasonable terms' (40)

Whether such a sideline was profitable is a matter of speculation, but it seems likely, for in Ward's Directory for 1865-6, Maughan was still offering his clients the service. In Hull, Thomas Dalton also offered a similar service, for in the directories, he was described as a bookkeeper and teacher of navigation. However, by 1851, he was listed only as a teacher of navigation.

One other method of supplementing a teacher's income was to hire out rooms in part of one's house. Major took in two boarders, so did William Thompson. Even in 1851, Baharie had a mariner boarding with him and twenty years later, Bainbridge Crick had a master mariner called Robert Atkinson, and a commission agent lodging with him. Some had members of their family in residence; for instance, Gibson's twenty one years old niece was staying with him and Duncan had his mother-in-law in the house. As far as can be ascertained, none of these teachers ~~was~~ able to employ servants, although some such as Ainsley would have been in a position to do so.

There were perhaps three other methods of supplementing what must have been a diminishing income. One was to specialise in some aspect of seamanship or navigation; for instance, C. M. Swainston's School offered

'Special lessons on the deviascope' (41)

No doubt such lessons would have been a boon with the change from wooden to metal hulls.

41. Reed's Tide Tables 1901. p.24.

The second alternative was to gain employment at one of the institutionalised schools. It seems that even before the Sunderland Technical College was opened, one local teacher of navigation was resourceful or desperate enough to write to the Technical Education Committee asking for a job. Captain Mence received the reply on 10 July 1900 that the Committee

'were not as yet making any appointments but the communication would be considered by the Committee when sitting to consider the appointment of teaching staff' (42)

In the event, Mence was not appointed and the post was awarded to Captain C. F. Watson. (43) It has not been possible to ascertain whether any of the teachers in Hull or Leith followed a similar course of action or whether they taught in the local Technical Education Committee Evening Classes. Swainston, Cuthbert Metcalfe and Evers all taught in a number of north eastern towns during the evenings. Evers took classes in machine construction according to the South Shields Public Library Evening Classes Syllabus for 1889 and 1890, while Metcalfe taught at St. John's Higher Grade Evening School during the same period. (44)

The final alternative was to offer tuition in subjects not covered by the institutionalised schools. For the whole of the nineteenth century, the Marine School of South Shields showed no interest in tuition by correspondence. This,

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42. Sunderland Technical Education Committee Minute Book, 1899-1902. 10 July 1900.
43. See Chapter 6.
44. See Chapter 7.

perhaps, could be interpreted as a criticism of the postal service, but at the end of the century, some of the proprietary schools offered their students such courses. Thorn and Sons started a correspondence service during the early years of the twentieth century and their Book of Useful Formulae stated that

'out of sixty one successful candidates for extra first, thirty one prepared by correspondence and of these, twenty seven passed first time.' (45)

W. E. Thompson also started a similar service, but in 1903 Bithel-Jones organised a Correspondence Department at the Marine School and in the November he wrote that

'Since taking over the duties of the school, I have found it necessary to institute a system of correspondence with the engineers, mates and masters whilst they are at sea. The cost of living ashore whilst preparing for these examinations prevents many intending candidates from sitting...I have arranged that candidates can prepare nearly the whole of their work whilst at sea. So far I have about seven or eight pupils with the hope of several more. I hope in twelve months that this correspondence course will be one of the prominent features of the school' (46)

Bithel-Jones' hopes were ill-founded and the Governors soon advocated that the department should be closed. No further references are made in the Governors' Minute Book after 1904 to the service and correspondence tuition was not re-introduced until 1917-8 as a wartime measure.

The reason why Bithel-Jones' experiment failed can only be surmised. Possibly, only the most determined would have

45. W. Thorn. Book of Useful Formulae undated.

46. Letter in the Governors' Minute Book, 1891-1907.

been able to study at sea, as on board many ships, conditions would not have been conducive to study and some men would have needed to rest during the dogwatches. Whether the proprietary schools had the same difficulty as the Marine School in attracting correspondence students, it has been impossible to ascertain but it seems likely. One school, McGibbon's Engineering Academy, Glasgow, claimed that it had 'two to three hundred correspondence students', (47) while Lockie's Engineering Academy at Leith and Pritchard's Academy, Liverpool, also offered tuition by correspondence, but no details of the numbers of students receiving such instruction have been discovered. As to the success of these ventures nothing is known, but no doubt for those students who opted for such a service, it reduced the need to spend so much time in school when ashore and also the need to 'cram'. The need for facilities to study and read had been recognised by some owners in 1866 and one ship at least is known to have had a morning and evening school to provide education for seamen who wanted to become officers. The Nautical Magazine lamented that other owners did not follow the lead.

To most of the writers of this century, including Clifford Jeans, the proprietary schools were 'cram' shops. Even in the nineteenth century, some of the witnesses who appeared before the 1860 Select Committee on Merchant Shipping

47. Reed's Engineers' Handbook quoted by A. Kennerley. Education of Marine Engineers. Marine Engineers' Review January 1979. p.31.

referred to the practice of 'cramming'. (48) The next year

'A Master' wrote to the Nautical Magazine that

'a few hours at the 'grinders' and anyone can pass' (49)

Some of the Government Inspectors took a similar view and Captain J. F. D. Donnelly noted in the Tenth Report of the Science and Art Department that even in the Board of Trade Schools

'the instruction is almost, if not entirely confined to the 'cram'..the teachers receiving grant aid are simply competing with ordinary 'crammers' at different ports' (50)

Few changes were made and in the Nautical Magazine in 1896. Bolam complained about 'cramming' and expressed the hope that the proposed examinations would encourage sound instruction. Blackmore replied in the same Journal that Bolam implied it was the sailors' fault that they opted for 'cramming', while in reality it was the system which permitted courses of undigested teaching. Perhaps it was a mixture of the two; seamen wanted to pass as quickly as possible, and the Board of Trade based the examination on principles which ignored the need for proper understanding.

The seamen in their autobiographies make many references to the need of finding a good nautical teacher and F. T.

Bullen in Men of the Merchant Service warned that

'The unhappy neophyte who has scrambled through his apprenticeship without attempting to learn the business...comes at the last moment to his crammer' (51)

48. See Chapter 4.

49. N.M. Volume XXX. 1861. p.227.

50. Tenth Report of the Science and Art Department p.21.

51. F. T. Bullen. Men of the Merchant Service 1900. pp.78-9.

In his own case he felt that the 'crammer' had done him no good whatsoever and Runciman was of a similar opinion, for he believed the best education could only be obtained on board ship.

One pupil at least is known to have been dissatisfied with the instruction given in a proprietary nautical school. Mrs. Mary Nutley wrote that her father attended a navigation school in Sunderland in the early 1900s, but it seems that he withdrew, even though he had paid the fees. One cannot help wonder how many other students found the instruction given to be unsatisfactory.

The teachers themselves were also eager to preserve their reputations and some were keen to point out that

'There is no 'cramming' at this school. Each candidate has Mr. William Thompson's personal supervision.' (52)

However, if we use the figures and details given in some of the advertisements, many nautical schools seem to have been 'crammers'. Baharie's advertisement for 1857 quoted statistics for 1855.

'Numbers of applications for examinations issued from the Shipping Office in Sunderland, to seamen prepared in Baharie's Nautical School during the year 1855... 297.
Number of applications for examination...to seamen prepared in other schools during...1855... 197.
Out of 297 applications issued to seamen in A. Baharie's Nautical School during...1855, only 43 failed, being about $14\frac{1}{2}$ per cent
Out of 197 applications (from) seamen in other schools...74 failed being about 37 per cent (53)

52. Bergen. op.cit. Back cover.

53. Reed's Tide Tables 1857. p.64.

Cockburn, in 1873, claimed that 300 masters and mates had passed with him who had failed in other schools and by the next year, 350 such men had succeeded with his help. By 1876, the number had increased to 500, so he must have been educating a large number of men each year.

Some twenty five years later, Swainston claimed that

'out of 41 extra masters who have been successful, 29 passed first time, 9 the second and 3 the third' (54)

which would seem to emphasize the fact that success in the examinations meant success for the school which educated them. Swainston, no doubt hoped that such statistics would persuade others to attend, as his school was more successful at getting men to pass.

W. H. Thorn, senior and junior, were also aware of this, for Thorn, junior, in his Sunderland school advertisement stated that

'From 1857, when Mr. W. H. Thorn, first established a school in the north, upto the present time, the number of their candidates who have been successful the first time of going up has been 90 per cent of the whole who tried' (55)

How such results were achieved can only be surmised, but we do know that when Thorn published their Book of Useful Formulae, 6800 of their candidates had passed in all of the grades of the examination. Doubts seem to have been expressed in some quarters about the school, for an insert in Keed's

54. ibid. 1901. p.38.

55. ibid. 1883.

Engineering Handbook to the Local Marine Board Examinations,

stated that

'W. H. Thorn and Son beg to warn old or intending pupils against believing false statements that are being made in order to try to discredit the well known reputation of their schools' (56)

What these statements were, it has been impossible to discover.

Details of the number of students attending the schools in Leith and Hull are very much lacking. Somerscale of Hull educated over 5000 men, while between 1882 and 1901, Lockie of Leith had 2500 passes. No other information has been found, but it seems reasonable to believe that they were 'crammers'.

As time passed, the need to pass quickly became even more important. Swainston in his memoirs noted with a hint of regret that as the examinations became more difficult the men had to spend longer in school. When the institutionalised schools gained supremacy, the pressure on the proprietary schools increased. The institutionalised schools were better equipped; even when Trinity House Navigation School was taught by Mr. T. Grey, the school had access to an 'observatory...nautical instruments and globes' (57)

Similar equipment was available at the South Shields Marine School, especially when it was located in its own purpose-built accommodation in Ocean Road (58). In 1898,

56. Reed's Engineers Handbook op.cit.

57. Marwood's Annual Maritime Directory 1856.

58. See Chapter 6.

an inventory showed that the school's equipment included

'2 artificial globes, 1 geodrascope,
1 marine chronometer, 3 sextants,
1 metal quadrant, 1 ebony quadrant,
1 azimuth compass with tripod,
2 binnacle compasses, 1 deviascope...
1 barometer, 4 artificial horizons,
1 box of Commercial Code of Signals.
1 box seamanship models...' (58a)

They also had a telescope and models of ships presented by shipping companies, so when the Shields Daily News reported that

'the nautical observatory and compass room form a department...of inestimable importance which will render it the facile princeps of all nautical academies' (59)

it seems to have been quite accurate. Further models were presented when the engineering department opened in 1903 and the Sunderland Technical College was equally well equipped. Like the Marine School, it also had an extensive library, but the proprietary schools did not have the finance to support such facilities nor the desire to, as libraries were not a source of income. The private schools only had the most basic equipment, but it must be remembered that many officers owned their own charts, as they were employed by owners on the condition they provided their own equipment, which would imply that it was not necessary for proprietary schools to have an extensive range of equipment. Some teachers, like Ainsley and Baharie, seem to have sold

58a. Inventory 1898. Marine & Technical College Library, So. Shields
59. Rev. Hooppell. Scrapbook of newspaper cuttings.

Plate VI.

Advertisement and external view of T. L.
Ainsley's Premises in the Mill Dam, South
Shields.

Source: Ainsley's Nautical Almanac 1900.

THOMAS L. AINSLEY,
MAKER AND ADJUSTER
OF IRON SHIPS' COMPASSES,
Mill Dam, South Shields.

Charts for all Parts of the World

Constantly kept in Stock.



Nautical Instruments Repaired & Adjusted
On the Shortest Notice.

A VERY LARGE STOCK OF
New and Second-hand Chronometers

Of the Best Quality always on hand.

buildings in 1869, while the Sunderland Technical College's laboratories and classrooms opened in 1901. The local proprietary teachers were not so fortunate, for at least twenty one are known to have held a school in their own homes or resided in part of the premises used as a school. Ainsley and Duncan started schools in their own homes before hiring rooms elsewhere. Baharie seems to have used his Laurence Street premises as his residence, shop and school. When Stiles had his accident in 1890, he was residing above his shop in the High Street, which was the same address as his school. He later seems to have taught navigation in his own home. One of the most interesting addresses for a nautical school was that of George Gibson at 19 Cousin Street, which according to the 1881 Census was the Fleece Hotel. Perhaps he was the proprietor of the hotel, for he seems to have resided there. E. Temple of Blyth also seems to have taught in his home, part of which was a farm, for the pupils were sometimes asked to help out. Even two of the engineering academies, Thorn's in Waterville Terrace, and Thompson's in Borough Road, both North Shields, were held in the proprietors' homes. It would have been unrealistic to expect them to have the same sort of facilities as the institutionalised schools.

Those owners who hired rooms often shared the premises with other firms. Ainsley's in the Mill Dam, South Shields, organised their printing works and instrument repair service in the same premises. Swainston had rooms above Wilson's shop; one of which was used for the masters, another for ..

the mates and a third for the extra masters. The rooms used by Duncan for his nautical academy at 80 King Street were in premises shared with Nicholson the grocer. When he later moved to 82 King Street, he shared with Mason the chemist and in the 1890s, he was at the same address as the Borough Rate Collection Office. the Borough Accounts Office and Mason the Pharmacist.

T. Southern also had rooms in the same building as the Star Life Assurance Company and Robinson the Insurance Broker when he was at 1 Green Street, Sunderland. Captain Mence's Nautical School was in premises at 37 Fawcett Street, which he shared with Mrs. Weddell's register officer, the Central School of Shorthand and Typing, Kirkby the accountant and Binns the confectioners. It seems safe to assume that when Captain Watson succeeded Mence, the premises must have been shared with possibly the same people. Marshall of North Shields also seems to have hired a room for his school, but no details are known.

Six other teachers are known to have conducted schools at addresses other than where they resided. Of the actual arrangements of the schools, nothing is known, but probably the only equipment they would have would be tables, chairs, blackboards and the basic navigational instruments. Nothing has been learnt of the remaining teachers' domestic and business arrangements, but some must have held schools in their homes. However, it has not been possible to come to any definite conclusions as the evidence is lacking.

In Hull, four of the seven teachers seem to have hired rooms for their schools. Dalton, Symington, Bean and Somerscale did not teach in their homes, but the last named did so after he retired. In Leith, T. Scotland, J. Pryde (1&11), J. Scrymgeour, A. Sime, T. Forman and J. Symonds all seem to have taught in their own homes. Only Lockie's academy seems to have been conducted in hired rooms. With regards to Leith, it does seem that the hypothesis that the schools were conducted in the teachers' homes has some truth in it.

It seems, then, that most of the hypotheses about the proprietors of nautical and engineering schools in the north eastern ports, were false. Only a minority of the owners were retired seamen and the majority were academically trained with little or no experience of life at sea. As to their being injured ex-mariners, only two or three at most, can be so described, while the notion that many were elderly can also be dismissed. Many teachers opened schools when they were relatively young, and continued working until they were elderly. Only a few schools opened this century, thus giving the lie to the hypothesis that nautical school owners were an aged sector of the community and had always been so. The reason that few schools opened can be attributed to the fact that being a nautical school proprietor was not so lucrative as it had been. Many owners had become involved in other activities, such as selling nautical instruments, publishing and writing books. This would also suggest that

their incomes from teaching were in decline. It is also possible that many of their clients were being attracted to the much better equipped institutional schools which gradually dominated the fields of nautical and marine engineering education.

CHAPTER 6.

North Eastern Institutional Nautical Schools, 1838 - 1902.

In some of the seaports, as an alternative to proprietary schools, there were institutional schools, which were organised by various committees. In the cases of Newcastle and Hull Trinity House Schools, the Brethren formed the School Committee and the Sunderland Board of Trade Navigation School had a specially appointed committee of local men to administer it. There was one other institutional school for seamen in the north east, the Marine School of South Shields; which had a School Committee to administer it and a Board of Trustees to look after Dr. Thomas Winterbottom's legacy. (1)

Indentures of 1836 and 1837 named the Trustees as Robert Ingham, barrister and sometime Member of Parliament for South Shields; Richard Shortridge, glass manufacturer; Joseph Hargrave, banker; Robert Anderson, gentleman and Terrot Glover, cordwainer. The Dean of Durham and the incumbents of five local parishes, the above named Trustees and six merchants or shipowners were to form the governing body. The six merchants or shipowners were to be elected from a list of twelve nominated at the annual general meeting and they were to form the School Committee, which had to inspect the school at least once a month to ensure it was being organised efficiently

The Trustees were not to meet until after the death of

1. See Appendix I and Chapter 2.

Winterbottom in July 1859 and the school opened in 1861. The institution seems to have been well endowed, for according to the Indenture of 1836, the endowment consisted of £20,700, and a further settlement of shares and money to the value of £15,000 was made in 1852, when it was possible that Winterbottom had been influenced by the renewed interest in science and scientific education, which had been aroused by the Great Exhibition of 1851. It is also interesting to note that 1852 was the year after compulsory examinations had been established by the Board of Trade.

Land also formed part of the endowment, for the 1836 Indenture described

'a parcel of land called Fowler's Close in Westoe in a certain...place now called Ogle Terrace, containing in length from north to south, forty yards or thereabouts, and in width sixteen yards or thereabouts.' (2)

Winterbottom seems to have become dissatisfied with the endowment of land, as a financial statement from Henry Anderson, possibly Winterbottom's accountant or solicitor, stated that on

'29 October 1836, paid expenses to consult Mr. Walter as to new site' (3)

A later entry on the same document reads

'13 April 1837. Attending Mr. Brown, solicitor, receiving abstract of Title to the Freehold Site purchased of Mr. Alderson.' (4)

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2. Indenture. 8 July 1836.
 3. Financial Statement dated 1836-7. Marine School Deed Box. Borough Solicitor's Department, South Shields.
 4. ibid.

The purchase of the new site was completed during May 1837 and the task of rewriting the Deed of Conveyance and the Statutes was commenced immediately. The revised Indenture, dated 28 August 1837, was filed in Her Majesty's High Court of Chancery on 7 September. The new site, in what is now Mile End Road, South Shields, is described thus:

'all that piece of land, part of the said close and garden called the Butts on the east side of Westoe Lane. The boundary on the north by the intended street called Alderson Street, on the south by an intended street called Ingham Street, on the east by an intended back street and on the west by Westoe Lane.' (5)

Winterbottom had purchased land in one of the few freehold areas of South Shields. Before 1833, most of the land in the town had been owned by the Dean and Chapter of Durham, which had to sell most of it to raise the necessary finances to endow Durham University. The Butts was also a good site, for it was near to the centre of the new business area of South Shields.

The Marine School was required by its Statutes to be open

'to every person who can write a good and legible hand and is acquainted with the first four rules of arithmetic and who shall have served at least one whole year at sea...or in the pilot boats and shall have attained the age of seventeen.' (6)

Winterbottom realized that the Statutes concerning the admission of scholars could mitigate against the welfare of

5. Indenture 28 August 1837.

6. Conveyance of the Site and Statutes Reprint.p.10. Hereafter referred to as winterbottom.statutes.

the school, so he gave the Governors the power to alter the Statutes after a period of seven years, if three quarters of the Governors and the Bishop of Durham were in favour.

The instruction in the school was to consist of mathematics

'and other learning which can interest or be useful to a mariner and fit him for the higher duties of his profession according to the system pursued in the best marine schools in the Kingdom. (7)

Winterbottom was, possibly, one of the earliest benefactors to consider the mercantile marine service as a profession, but it is hard to understand why he should have been so anxious to help seamen.

His interest may have stemmed from a number of factors, including the fact that several of his relations had been seamen, some of whom had been lost at sea. In 1794, for instance, Matthew, his brother, was drowned in an accident off the Gold Coast and this may have led Thomas to the belief that some of the accidents could be attributed to incompetence, poor education and a lack of proper training. His opinions must have been re-inforced when he recalled his childhood in Dean Street, South Shields, an area where many sailors lived. The time he spent as a medical practitioner and the voyages he undertook as an adult must have confirmed his views. He may also have been prompted into action by the reports in newspapers of the findings of the Select Committee of 1836, (8)

7. ibid.

8. See Chapters 1 and 4.

which contained many accounts of the ignorance of seamen.

Others had also been prompted to act at this time, for it will be recalled that in Sunderland and South Shields, the insurance associations were in the process of establishing their own system of examinations (9) for masters. If captains were to be tested, it was obvious that they would have to attend some school to acquire the necessary knowledge to answer the theoretical questions. Winterbottom, no doubt, thought that he was providing an answer. The seamen themselves also seem to have had the matter in hand, and who could be more competent to provide an education than the seamen who constituted the Brethren of Trinity House, Newcastle. They already had some experience of organising a school for their own children and apprentices. (10) The Trinity House School had been open to young men from December 1788, when it was resolved that

'any person serving his apprenticeship for the freedom of this house may have the benefit of the school at any time after he has finished his servitude.' (11)

Assuming that the boys had entered their apprenticeship at the age of eleven or twelve and served at least four years at sea, this meant that they would have been sixteen or seventeen when they returned to school. A later order of February 1825 would seem to confirm such a view and in the late 1830s the school, possibly, found that more seamen were attending.

9. See Chapter 4.

10. See Chapters 2 and 7.

11. Trinity House Order Book. 23 December 1788.

The Gateshead Observer noted that

'the nautical schools have been better attended, a gradual and marked improvement is apparent in the candidates who present themselves for examination... an incitement is given to young seamen to make themselves better acquainted with the coast... These are the practical results, and the moral influence which it exercises cannot... be ascertained.' (12)

However, not all the Brethren were satisfied with their school, and occasionally attempts were made to close it in the early 1840s. It has been impossible to ascertain whether these were due to the small numbers attending or for some other reason, but even after the school had been re-organised by Dr. Playfair, (13) it still does not seem to have been very popular. The Report of the Science and Art Department for 1858 shows that 37 seamen and apprentices attended during the previous year, while 215 men and apprentices attended the Sunderland Board of Trade Navigation School. The figures for subsequent years are given in Table XVI below and a decline in the Newcastle numbers can be discerned. It is also possible to conclude that the Newcastle School was never so well attended as the Sunderland School.

12. Gateshead Observer 3 December 1842.

13. See Chapter 2.

TABLE XVI

Numbers attending Newcastle Trinity House School and
Sunderland Board of Trade School

<u>Year</u>	<u>Newcastle</u>	<u>Sunderland</u>
1859	44 seamen	207 seamen.
1860	35 seamen	184 seamen.
1861	56 seamen	184 seamen.
1862	39 seamen	184 seamen.
1863	53 deck officers 3 seamen 2 engineers	

Source: Science and Art Department Reports.
1859 - 64.

The average attendance figures for the Newcastle School was 3.1 adults in 1858, while the average for Sunderland was 14.6 adults. Both schools experienced an increase in the average attendance during 1859, but there was a decrease in 1860. The last year for which we have figures for Sunderland is 1862 when 10.1 adults attended on average and by 1863, only 5.95 adults were in attendance at the Newcastle School.

It is hard to surmise why the Newcastle School was so poorly attended; perhaps, it can be linked to the fact that Newcastle as a port was in decline and more ships were mooring at the mouth of the River Tyne or at Sunderland. One fact that we can be more certain about is that the question of fees charged at the schools cannot have been a major factor, for they both charged similar amounts for some of the tuition given.

The Report of the Science and Art Department for 1858

shows that the fees in the Newcastle Trinity House School were as follows:

Extra-master-7s. 6d. per week.
Chief Mate for master - 5s. per week.
Only mate for chief - 5s. per week.
2nd mate for chief.-5s. per week.
For second mate-2s. 6d. per week.
Apprentice.-6d. per week.

During the same year, the Sunderland Board of Trade Navigation School had the following fees:

Master for Extra - 5s. per week.
Chief mate for Master-5s. per week.
Only mate for Chief-2s. 6d. per week.
2nd mate for Chief-2s. 6d. per week.
For second mate-2s. 6d. per week.
Apprentices-6d. per week.

We can see that for some courses the Sunderland School did undercut the charges at Newcastle. Later, the Brethren of Trinity House seem to have been desirous of increasing their fees, so that masters would be charged fifteen shillings per week whether they were studying for an extra master's certificate or not. Whether the increase was implemented, it is not possible to say, but at Sunderland from 1864, the men were required to pay a portion of the fees on entry and the rest on passing.(14) Such a system, no doubt, encouraged the teachers to try their best to educate their students.

The proposed increase in fees at Newcastle Trinity House School or the higher fees already charged there and the increased activity at the river's mouth may have led to A.P. Ryder(14) suggesting that the school ought to be re-established at

14. See Chapter 5.

14a. A.P. Ryder was an H.M. Inspector. See also Chapter 2 for his views on boys' nautical education.

North Shields. Some of the Brethren were in favour, but the motion was not carried. However, Ryder's recommendation was very much in accord with his 1858 Report, which stated that any government assisted school which was not a success should be closed or altered.

Many seamen would have found difficulty in paying such fees, as they did not receive wages while in port. Furthermore, many were extravagant and had to find a ship as soon as their money was spent. They were not interested in study, but some were and they would be more thrifty. Even they would have found difficulty in paying fees for a long period of time, so who could blame them for attending the Marine School of South Shields, which offered free education. Those who lived some distance from the school could even get concessionary rail tickets, which offered a return journey for the price of a single fare. With such competition, it is not surprising that the Newcastle Trinity House School and the Sunderland Board of Trade Navigation School both experienced a drop in income. Possibly, this could have been another factor, which ultimately led to the closure of these schools.(15)

Some financial returns still exist for the Newcastle School and these show that there were periodic declines in income. For instance, the fees collected from adults dropped from £6. 5s. Od. in October 1868 to £2. 15s. Od. in May 1869.

15. See also Chapter 2.

This drop occurred at the same time as the South Shields Marine School was moving into new premises. (16) The finances of Trinity House School recovered in June 1869 to £10. 2s. 6d, of which £1. 10s. 0d. was collected from engineering students and £6. 12s. 6d. from mates. However, during 1870, another reduction in income occurred and in the July, only £4. 10s. was collected from mates, £1. 10s. from masters and £6 from engineers. (17) Seven years earlier, £60 had been paid in fees, so with such a large decrease, it is not surprising that Thorn urged the closure of the boys' department (18) and the concentration of attention on teaching seamen. He was also possibly aware that an expansion in the education of engineers could earn the school more money.

The fees received by the Sunderland Board of Trade School are given in the Reports of the Science and Art Department. In 1856, £74. 5s. 6d. was received in fees and during 1857, £102. 4s. 6d. was collected. The amount received continued to increase and in 1861, £214.19s. 0d. was collected, but during the last year for which figures exist, there was a drop of over £8. Whether this was the beginning of a downward trend, it is impossible to say, but both schools were to be overtaken by events in London.

16. See below.

17. Figures from Trinity House Journal, 1861 - 70.

18. See Chapter 2.

In early January 1863, Captain J. F. D. Donnelly completed his Report on the System of Aid to Navigation Schools in which he suggested a revision of grants to navigation schools. His reason for advocating change was

'The instruction that is given to...masters, mates is almost, if not entirely, confined to the 'cram' required to pass the examinations of the Board of Trade.' (19)

Ryder had noted this fact in 1858, but Donnelly added

'The standard...fixed for these examinations is merely an empirical...knowledge of certain practical rules as far as navigation and nautical astronomy are concerned...The only partial exception...being...the Master's "Extra Certificate" and these are but rarely taken. In this division of the instruction, the teachers receiving government aid are simply competing with the ordinary 'crammers' at the different ports. The class of men are again not such as public aid is usually granted for...On the other hand it may be urged...that these masters, mates and others, pay large fees for examination and registration... and that they therefore have a claim on the country for assistance in instruction. Nor do I think it any bar to this claim that most if not all of this amount is spent in supporting the staff of examiners. These can scarcely be considered as for the benefit of the masters and mates but for the protection of...the public...I believe that when navigation schools were established it was hoped that they would give some grounding in the principles and theory of the subjects, something more than the mere 'cram' afforded by the ordinary teachers at the ports. This object under the present system they have failed almost entirely in effecting. In proposing a revision of the system of aid then I have considered it most advisable to make the instruction of masters and mates an entirely secondary and incidental action of the school.' (20)

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19. J. F. D. Donnelly. Report on the System of aid to Navigation Schools. 1863. p.2. See also Chapter 2 for his views on boys' nautical education.
20. ibid. pp.2-3.

He felt that

'for the Science and Art Department to... provide teachers in a few places is only interfering with private speculation and rendering it uncertain. Such interference is sure to be injurious unless the Department is prepared to take the instruction wholly under its control. And the instruction is really of such a technical nature amounting in fact to teaching a trade, that although the State may demand this knowledge it cannot be considered its function to provide' (21)

With the application of a system of payment by results, many of the Board of Trade Navigation Schools closed and this seems to have been the case with the Sunderland School, as it is not included in any of the Science and Art Department Reports after 1863. The school seems to have continued under private patronage, as did the Newcastle Trinity House School, which was last included in the 1864 Report. Some of the navigation schools seem to have written to the Science and Art Department and the Board of Trade

'praying the continuation of the grant paid on pupils passing the Board of Trade Examinations.' (22)

A letter of 4 August 1866 from the Board of Trade stated that the Board had no funds to continue the grant and that aid given under a minute of May 1864 would also be terminated. It has to be remembered that the 1864 minute had 'only been a temporary measure, which was to last for two years.

With the demise of the government aided schools in Newcastle and Sunderland, the South Shields Marine School

21. ibid. p.3.

22. Report of the Science and Art Department 1866. p.19.

continued to provide free tuition. It was not until 1893 that the school introduced a fee when the income from its endowments declined. It charged students a life membership fee of one guinea, while proprietary schools required their students to pay for each course of study undertaken.

The syllabuses for each course were laid down by the Board of Trade, which meant that, nationally, all the nautical schools should have been teaching the same subjects to the same standard. We know that Newcastle and Hull Trinity House Schools had a similar curriculum, as did the Sunderland Board of Trade Navigation School. The Mercantile Navy List for 1859 informs us that the course of study embraced

'reading, writing, arithmetic, geography, the sextant...chart drawing, geometry, algebra, trigonometry...the use of the nautical almanac, mathematical tables, methods of determining the latitude, and the almanac, the principles and construction of the chronometer, nautical surveying, the compass and magnetism of ships, the theory of winds, tides and currents, methods of taking and recording meteorological observations, the principles and construction of the steam engine as applied to the paddle and the screw. The proper methods of keeping ship's books, with other subjects relevant to a seafaring life.'(23)

We can discern one major difference between these schools and the South Shields Marine School, for the latter did not provide courses in reading, writing and arithmetic.

Winterbottom's Statutes stated that the object of the school

23. Mercantile Navy List 1859. op. cit. pp.377-8,

was to educate seamen in mathematics, scientific subjects and the elements of maritime law

'rather than to afford merely elementary instruction, which may be equally obtained in the ordinary schools of the town' (24)

An advertisement for the school gives more details;

'The subjects taught are navigation, nautical astronomy, the use of the quadrant, sextant, azimuth, compass and other nautical instruments. Deviation of the compass and all things necessary and useful for seamen' (25)

Later the instruction was extended to include the Commercial Code of Signals, the rule of the road at sea, the influence of iron ships on their compasses and 'tending ships at single anchor'. (26) It is hard to understand why the last subject was listed separately, as it is only one aspect of seamanship; possibly it was a favourite of the examiners on the South Shields Marine Board.

Winterbottom's Statutes also required that

'the whole of Saturday...be devoted to the study of astronomy and geography, aided by the use of celestial and terrestrial globes, and in case there shall be two masters this instruction on Saturday shall belong to the second master' (27)

Astronomy, in particular, was to be taught because it was

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24. Winterbottom. Statutes op.cit. p.12.
 25. Hooppell's Scrapbook.
 26. ibid.
 27. Winterbottom. Statutes op.cit. p.11.

'a science which can alone enable him
(the sailor) to form some idea of the
magnitude of the works of his Creator' (28)

Although the school was open on Saturdays from its inception, it has not been possible to ascertain the nature of the instruction given on that day or whether the second master, when one was employed, actually gave it.

Perhaps a better idea of what was taught in the school can be obtained from Hoopell's book on navigation. He, like a number of other teachers of nautical studies and engineering in the north east ports, wrote a book of examples for the students he was teaching. (29). It included chapters on integral, decimal and sexagesimal arithmetic, logarithms, trigonometry, the logarithms of trigonometrical values, the connection between angles, area and time, the solution of right-angled plane triangles and plane and traverse sailing. It seems then safe to conclude that mathematics formed a substantial part of the curriculum at the Marine School.

It was not until 1875 that steam was added to the school's curriculum, but this seems to have been a very late extension, as the Sunderland Board of Trade Navigation School and the Newcastle Trinity House School had been teaching the subject in the 1850s and 1860s. The national system of Board of Trade Examinations for Marine Engineers had been established in 1862, (30) so perhaps the Marine School was

28. ibid.

29. See Chapter 5. R.E. Hoopell's An Introduction to the Practice of Navigation and Nautical Astronomy was published in 1871.

30. See Chapter 4.

only trying to fulfil what must have been an ever increasing demand. Hodgson in his Borough of South Shields noted that 352 steam ships and 1097 sailing ships were registered on the Tyne in 1869, while ten years later 484 sailing ships and 603 steam ships were registered. (31) Each steamship would have required certificated engineers, but it was not until 1903 that the Marine School had an engineering department.

The department had been suggested by Mr. A. Flagg (32) in the Autumn of 1902, some twenty three years after the Sunderland Board of Trade Navigation School ceased to exist. It seems then that during the 1880s and 1890s engineering courses were available only in the local proprietary schools (33) so Flagg proposed that the school should be divided into two departments: a navigation department, which would continue to educate deck officers, and a new engineering department, which was to be placed

'under the special charge of a practical engineer. A difficulty is found at some ports in attracting engine room officers and deck officers to the same institution, but if an entirely separate department were organised in different rooms, this difficulty might be overcome; and a special opportunity for adopting this plan is offered at the Marine School through the large number of Engineer Apprentices (roughly speaking half the number this session in all the shops in South Shields) who have been already accustomed to attend the evening classes held at the school. Moreover, the engineer side of the sea service has a greatly preponderating hold on South Shields particularly, and a local Marine School should therefore offer special facilities for this branch of the profession' (34)

31. Hodgson, op.cit. p. 317.

32. See Appendix I.

33. See Chapter 5.

34. A. Flagg. Marine School of South Shields. Draft. 21 Jan. 1903.

The reference to attracting engineers and deck officers to the same institution is interesting, as there seems to have been a certain antagonism between the two groups over their social status on board ship, especially during the 1880s and 1890s.

The new department opened on 8 June 1903, with Mr. Peter Youngson in charge. The fees were set at one guinea for each course of study, and by August five students had enrolled. The same month as the department opened, an article by James Bolam of Leith Trinity House Nautical School appeared in The Journal of the Department of Agriculture and Technical Instruction for Ireland in which he saw engineering classes as an essential part of a navigation school;

'A Nautical College (is) a place where the engineer... may receive instruction in the special application of general engineering to that very limited section of his profession, marine motor production' (35)

At the Marine School, South Shields, daily lectures were given on the slide valve, refrigeration, boilers, pumps, forced draught, the paddle engine, electricity, light, hydraulics, propellers and oil engines. The new department was organised on the class teaching basis, but as to the manner in which subjects were actually taught during the early years of the Marine School's existence and in the other earlier schools, little is known. It seems that Hooppell and his successors used the personal tuition system because of

35. J. Bolam. A School of Navigation. The Journal of the Department of Agriculture and Technical Instruction for Ireland June 1903. p.707.

the small number of students attending. Perhaps pupils with similar interests may have been taught in small groups; G. Pope suggested this in his rejected plans for the school, which he submitted in 1860 when he applied for the headmastership:

'If the numbers were small the plan would be one of individual tuition like the mathematical departments of ordinary schools; if large it would partake more of the character of a university lecture.' (36)

This was the course of action Hooppell seems to have followed when the average number of pupils increased to about 60 in 1869. Possibly, he would have lectured to groups of men who were studying for the same examination, while the rest would have occupied themselves with private study or exercises set by the schoolmaster. Similar arrangements possibly existed at Trinity House School, Newcastle, where after the departure of Adamson, the assistant, Thorn was expected to teach the boys and the men. While the boys were working on some exercise, Thorn would be able to help the men either in groups or individually. A.P. Ryder in his 1858 Report noted that many of the seamen attending the government assisted schools were too ignorant to be taught in classes and had to be given individual tuition. Ryder also advocated that the boys should be separated from the adults, but with only one teacher in the Newcastle School, this would have been impossible. (36a)

36. G. Pope. A Plan for Conducting the Marine School of South Shields. 3 December 1860.

36a. See also Chapter 2.

At the Sunderland Board of Trade Navigation School, Stiles had a large number of assistants. In 1856 and 1857, he was helped by W. West, who seems to have been replaced in 1858 by H. J. Saunders, who was later to partner Stiles in a private school. (37) During 1859, Stiles had four assistants; H. Saunders, S. Burchill, George Gibson and J. Reynolds and for a time, there were also two pupil-teachers; J. Duncan and Blythe Jolly, both of whom left later in the year. A turning point in the school's fortunes seems to have occurred during 1860, for Stiles only had Saunders and Burchill as assistants, but by 1861, Saunders had been rejoined by Reynolds and Gibson. Having such a large number of assistants must have made teaching much easier, as the boys could be taught separately from the seamen. Fordyce in his History and Antiquities of the County Palatine of Durham gives a brief description of the school, which supports such a view. He wrote that

'The school for apprentices and seamen is held in the evening as well as daytime and the instruction is of a practical character. A special room is fitted up as a school for masters and mates who desire to pass the local marine board examinations' (38)

Ryder would have approved of such an arrangement, but once the number of staff employed began to contract after 1864, the school would have possibly been re-organised. It seems probable that one master would have instructed the boys and the other, the seamen.

37. See Chapter 5.

38. W. Fordyce. History and Antiquities of the County Palatine of Durham. annotated version. Volume 7. p.160.

At the time when the other institutional schools in the area found that they could no longer employ a large number of staff, the Marine School's finances improved to the extent that it was able to employ an assistant master. In November 1869, W. Duncan (39) was appointed, which permitted some changes in the school's organisation. In his introductory evening lecture, Rev. Hooppell, stated that

'On Monday afternoons, the use of the sextant and quadrant would be taught. On Tuesday afternoons, the method of finding the tides. On Thursday afternoons, the use of the Commercial Code of Signals and on Friday afternoons, the regulations of avoiding collisions at sea. He hoped shortly to be able to appoint special times for lessons on steam. Having spoken also of the probability of classes being formed to prepare seamen for examinations in the Science and Art Department...in navigation and nautical astronomy..' (40)

The Science and Art Department Examinations emphasised the need of understanding the principles of the subjects. The main difficulty in getting the Marine School and its courses recognised was that seamen often failed to attend classes or left as soon as a berth became available on board a ship, thus missing the examination. Hooppell recorded on many occasions that different men attended in the morning from those who attended during the afternoon. On 3 November 1862, Hooppell taught four men in the morning and four different individuals in the afternoon. Later on 1 February 1871, twenty eight students attended during the morning, of whom sixteen

39. See Chapter 5 for information about his private school.

40. Hooppell. Scrapbook. 1869.

returned for the afternoon together with twenty others. (41)
A similar problem had affected the navigation schools established in conjunction with the Board of Trade and the Committee of the Privy Council for Education. From 1863, the Science and Art Department introduced a system of payment by results into the navigation schools, but after receiving protests, the Department relaxed the rules governing the period during which the necessary number of lessons had to be taken and increased the number of examinations from one, usually in the May of each year, to four a year, with the additional requirement that at least forty pupils had to present themselves at a centre for examination each quarter. The difficulty was that the seamen were not interested in the Science and Art Department Examinations, as a pass did not enhance their prospects of promotion. One effect of the change in regulations was that Adamson, the assistant master at the Newcastle Trinity House School, had his grant withdrawn and he had to find another post. Basically,

'the rules of the Science and Art Department classes as to the number of attendances and the time within which that number must be taken rendered them inapplicable to the case of young men at sea and served to cut away the grants so much as to make them unattractive to teachers, who found their time more remuneratively occupied in 'cramming!' (42)

By 1869, the Seventeenth Annual Report of the Science and Art Department noted that none of the navigation schools sent up pupils for examination and therefore they received no grants.

41. Marine School Monthly Roll and Attendance Register, 1861 - 1885.

42. Blackmore. The British Mercantile Marine - A short historical review. op.cit. p.177.

It seems unlikely that Hooppell got his classes registered, for no records exist of the school receiving grants from the Science and Art Department until the late 1880s.

Evidence is also lacking as to the length of time Hooppell's system of classes continued. Duncan had his contract terminated in November 1871, leaving Hooppell once more as the sole teacher, and it is possible that the school once again reverted to the former system of individual and small group tuition. Thomas Dobson (43) also seems to have continued with such a method of teaching, even though he had an assistant master, for the only class which Dobson definitely taught during the day was one which met for a series of

'practical lessons on magnetism and deviation of the compass in iron ships. Given each day at 1 p.m.' (44)

It has not been possible to ascertain for how long Dobson continued these classes, as later advertisements make no mention of them. By the time that Ambrose Flagg was appointed as the third headmaster in 1886, the school seemed to be using only a system of individual tutoring. However, during 1898, Flagg began to introduce class lectures in meteorology, navigation and ocean passage. The new arrangements were popular with the students as they proved a help in gaining passes in the revised Board of Trade Examinations. By 1905, Bithel-Jones, the school's fourth headmaster, was

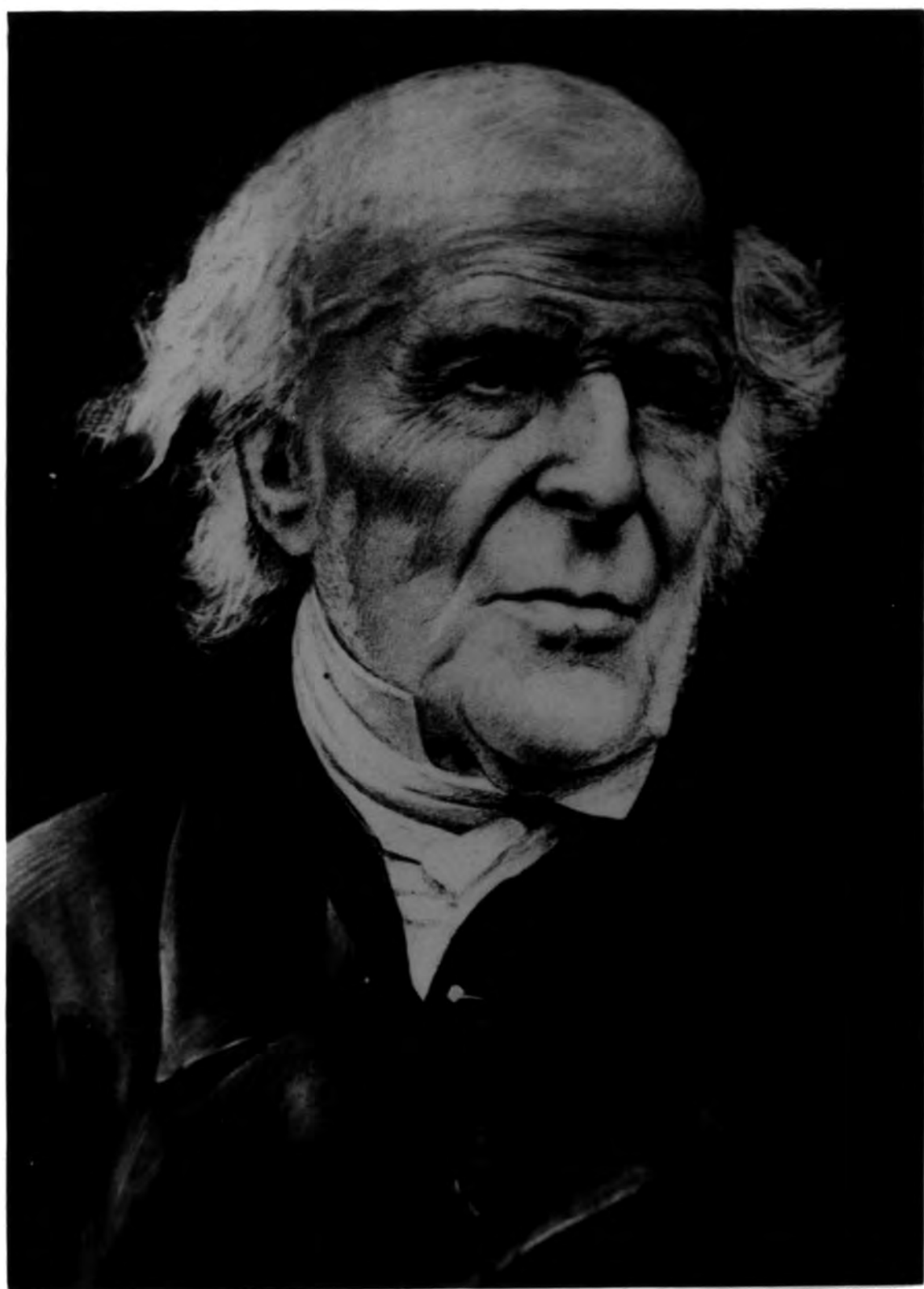
43. See Appendix I.

44. Shields Gazette 30 August 1876.

Plate VII.

Dr. Thomas M. Winterbottom, founder of the
Marine School, South Shields.

By kind permission of the Local History Library, South
Shields Central Library.



able to report that the school's success was entirely due to the fact that

'we have to a certain extent discarded the method of private coaching adopted in other nautical and marine engineering schools' (45)

The move could also be interpreted as an attempt to counter any accusations of 'cramming' which may have been levelled at the school. The Liverpool Nautical College, which had been founded in 1892, was accused of being a 'cramshop,' for it was claimed that it

'is scarcely carrying out the important work for which it was founded, ... the 'cramming' of candidates for the Board of Trade Examinations is not the raison d'être of the... college. The funds thus earmarked are for the higher and broader education of Mercantile Marine Officers. Yet apparently nearly the whole effort of the College is devoted to 'cramming' young men for Board of Trade Examinations, despite the fact that Liverpool has many competent 'crammers' who are unsubsidised... As regards higher education otherwise known as the diploma course, not one candidate presented himself for examination.' (46)

The diploma course aimed to give the officers an understanding of the principles behind the professional subjects taught. However, as Ryder had found in 1858, it still seemed true to say that most men only wanted enough knowledge to pass the Board of Trade Examinations. The Nautical Magazine remained critical of such meagre ambitions, and when it was proposed to establish a nautical school called the King Edward VII School

45. Marine School Governors' Minute Book, 1891 -1907. Headmaster's Half Yearly Report. 10 August 1905.

46. N.M. Vol.LXX. 1901. pp.258-9.

in 1902, it condemned the idea as a subsidised 'cramshop'. The editor Allingham, also claimed that it would only add more certificated officers to a market which was already full of them. What he wanted was a college which would give a higher and broader education.

The Marine School also extended its curriculum to include First Aid Lectures, which were organised by Flagg with the assistance of South Shields Ambulance Association in 1898. These practical lectures were the result of criticisms which had been made at the London Shipmasters' Society as to the ignorance of shipmasters in such matters. In his article of 1903, J. Bolam was in favour of such lectures, but he would have gone further;

'An ambulance class is a very good thing as far as it goes, but the shipmaster's instruction should go further; and I advocate the giving of lectures at a Nautical College by a medical man, who should be paid for his services and who should supplement his lectures not only by demonstrations in the College but also by taking his students to visit the nearest hospital' (47)

Finally, classes were also formed during Flagg's headmaster-ship, so that fishermen could study for the Fishing Boat Examination which had been established by the Fishing Boat Act of 1883. With the change to steam, it became obvious that fishermen were in need of an improved education, so the Technical Education Committee of Northumberland granted

47. Bolam. op. cit. p.709.

'to fishermen, one from each of the coastal ports, an allowance of thirty five shillings a week for three weeks, to study at the Marine School.' (48)

Such fishermen were to learn how to teach chart reading, the compass, rule of the road at sea and coastal navigation. Thus the Marine School fulfilled another of Bolam's goals for a nautical school. The first students, John Buglass and James Archbold, appear to have been admitted in January 1892, and after qualifying, they were to return to their villages to teach the other

'fishermen...partly as a means of preparing them for the new examinations demanded by the Board of Trade.' (49)

These examinations were changed in the 1890s, so that certificates were awarded at either an elementary or advanced level and they included oral and written papers. In 1895, the Coastal Navigation Examiners Report stated that the standards required were to be raised, and it is interesting to note that the other Board of Trade Examinations were to become more difficult a few years later. The fishermen instructors were to return to the Marine School in alternate years for refresher courses which lasted three weeks. The classes held by the fishermen instructors in their home villages seem to have been

'well attended. The results tested by annual examinations over which Captain Sinclair (assistant master of the Marine School) presides.' (50)

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48. Marine School Governors' Minute Book, 1891-1907.
10 February 1892.
49. ibid.
50. Shields Gazette. 4 April 1899.

In 1893, courses were held at North Sunderland, North Shields, Berwick and Cullercoats, each with an average attendance of nine. The numbers increased during 1894-5, with twenty two candidates at Cullercoats and eighteen at North Shields. All the candidates who entered for the examination were successful that session. The next year saw similar results at Berwick, Craster and Cullercoats, but there was no return for North Shields. After 1896-7, no details are given about the lectures in Cullercoats either, but in 1897-8, seventeen people attended at Beadnell and thirteen at Berwick. During the next session, five attended at North Shields, but after 1900 no details exist, so there was probably a decline in interest and only North Sunderland is listed as holding lectures in coastal navigation.

Some of the fishermen were reluctant to attend the local centre, as they doubted the ability of their fellow-fishermen to teach, but after receiving instruction it seems that many were pleased that they had attended. An H.M. Inspector's Report of 19 January 1894 stated that the methods of teaching were practical, but what else could one expect from men who had spent all their lives at sea.

The vast majority of teachers in the institutional schools seem to have been academics trained in colleges or universities. The lives of A. Tinwell and Thomas Grey, both teachers in Trinity House School, Newcastle, are a mystery, but once the school had been re-organised by Dr. Lyon Playfair,

more is known about the staff. Each teacher seems to have been educated at the Royal Naval School, and once they had attained certificates in navigation and nautical astronomy, they taught at the London Navigation School. These young teachers had no seafaring experience and it was during their time in London that they became acquainted with seamen and their ways. Once they had completed this probationary period, they were sent to the provincial navigation schools, such as those at Newcastle and Sunderland.

William Henry Thorn was appointed to the Newcastle Trinity House School at the age of twenty two in 1857. He had been born in Devon and followed the above route to become a certificated master. It is quite possible that the only sea journey which he made was the one from London to Newcastle, if he travelled by that means. His assistant, James Bolam, was equally ignorant of the sea, but he so impressed the Lords of the Privy Council that he was invited to become headmaster of Leith Navigation School.

The same sort of men were appointed to the Sunderland Board of Trade Navigation School. The first master was Mr. W. Bolt, who had been to the Royal Navy School at Greenwich as a pupil teacher. He stayed only a few months in Sunderland before moving to London and was replaced by J. J. Stiles, (51) who had a similar training. He was only twenty four or twenty five when he was appointed, and one of his successors, George Gibson, was only fourteen when his name was first listed

51. See Appendix 1.

in the Science and Art Department Report for 1859. Gibson seems to have been born in Newcastle, so his experience of sea travel must have been extremely limited. It is interesting that his name is missing from the report for 1860 and it is possible that he was then gaining some experience on board ships. Regrettably, there is no evidence to support this view, and the whole matter is open to speculation.

As to the men appointed to the Marine School, South Shields, Winterbottom desired

'Every person chosen to be a master in the said school shall be a Master of Arts of the University of Oxford or Cambridge' (52)

which virtually ruled out the appointment of an educated seaman to the position. Also the task of selection was made more difficult by the fact that neither Oxford nor Cambridge had shown much interest in scientific education and their curricula still concentrated on the classics. It was not until the middle of the nineteenth century that their interests in science were renewed and curricula changes began to be made in Oxford or Cambridge. The best places for a scientific education were the Scottish universities, but the Statutes excluded their graduates from being considered by the Governors.

To ensure that a suitable candidate was appointed, each applicant had to submit

52. Winterbottom, Statutes op.cit. p.9.

'a scheme or plan for the management and conducting of the said school, as he shall think most expedient to be adopted, having regard to the Statutes.' (53)

Each plan was to be an 'original' composition and not a copy from some other. (54) Only two of the plans have survived; those composed by George Pope and William Pendered. The latter envisaged extending the school's curriculum to include scripture, history, dictation, French and choral singing, as he was not in favour of concentrating on only a few subjects. Furthermore,

'It may be ill-judged so to widen the area of instruction, but for the reason I have given...it must be allowed there are lads of little taste or capacity for navigation who may yet be capable of satisfactory attainment in subjects better suited to their calibre...If a lad should discover one talent (be it even nothing better than a good voice) it is judicious as well as kind to give him an opportunity of cultivating that his best part' (55)

It seems that Pendered had misunderstood the nature and purpose of the school. Further support for such a view is provided by the fact that he makes no mention of men studying for the Board of Trade Certificates.

Pope seems to have made a similar mistake, for he expected the students to attend for about a year, but he did not wish to extend the curriculum to the same extent as Pendered. He wished to concentrate on nautical subjects, with an examination in those subjects

53. ibid. p.18.

54. ibid.

55. W. Pendered..A Plan for the Management of the Marine School. pp.3-4.

'and those who acquit themselves to the satisfaction of the examiners should receive certificates of having passed that examination' (56)

The examination was to be set by the school, not the Board of Trade, and it also seems reminiscent of the Liverpool Nautical College Diploma of some thirty years later.

A report in the Shields Gazette for 18 January 1861 states that eight candidates had been invited for interview and that Rev. R. Hooppell (57) had been appointed. One can only surmise that the school's subsequent development was according to his plan, but the document has been lost. He was clearly well qualified academically, but he did seem to lack sea-going experience. He was head until 1875 when he returned to the ministry at Byers Green.

During 1869, it seems probable that there were some criticisms of Hooppell's ability to teach the more practical aspects of seamanship, so in response, he invited experts to lecture in the evenings. (58) On 25 November 1869, James Miller lectured on 'the scientific principles involved in the propulsion of ships by the action of wind upon their sails' (59) and during the next month, Captain W. Lucock lectured on the management of vessels at single anchor and the rule of the road at sea. The newspapers reported that

56. G. Pope. *A Plan for Conducting the Marine School.*
3 December 1860.

57. See Appendix I.

58. See Chapter 7.

59. Hooppell's Scrapbook.

'he concluded with some practical advice to the students as to the action they should pursue when in command of vessels' (60)

Hooppell would, probably, have found it very difficult to lecture on such subjects, as would have Ambrose Flagg, (61) the third head appointed in 1886. He, too, was academically well qualified, but no seaman.

The only head who seems to have had some experience of the sea was Thomas Dobson, (62) the second head. According to Welford's Men of Mark 'Twixt Tyne and Tweed, he was academically well qualified and had practical experience, for he had

'circumnavigated the world and had visited many countries' (63)

The Governors seem to have made it a deliberate policy to have an academic as headmaster and a practical seaman as his assistant. Mr. Hooppell and seventy members of the school requested in February 1869 that the Governors should try to appoint such an assistant, and eight months later, Mr. W. Duncan had been appointed to the post. He held a master's certificate from the Board of Trade, but his contract was terminated in 1871, as the school could not afford his services. When he was re-appointed in August 1875, he had acquired an extra master's certificate.

60. ibid.

61. See Appendix I.

62. See Appendix 1.

63. Shields Gazette 19 January 1876.

His successor, Captain W. Sinclair was appointed, possibly in 1880, and he had commanded several trading vessels. As to his, and Captain Duncan's teaching qualifications, nothing has been discovered. Sinclair was to remain employed at the school until his death on 30 December 1906.

The reason why the Marine School could attract men of academic standing was that it offered a very generous salary. Hooppell was appointed at a salary of £350 per annum, while Dobson received £250 per annum; the £100 difference being used to pay the salary of the assistant master. The masters in the Board of Trade Schools were not nearly so well paid and their salaries were partly dependent on the class of certificate which they possessed. (64)

The finances of the Marine School from its endowments were also adequate enough to ensure that a suitable building could be constructed. The Trustees had the power to delay construction until they were of the opinion that

'suitable funds (were) obtained for the erection of a suitable building or buildings on the said parcel of land for the said school and the maintenance thereof' (65)

In 1860, the Governors and Trustees were of the opinion that

'as no comparable institution existed anywhere in the country there was no model on which to base a design for the buildings. It was therefore decided until experience had been gained in the working of a school, premises should be hired'. (66)

64. See Chapter 2.

65. Winterbottom, statutes op.cit. p.8.

66. South Shields Marine and Technical College Official Opening Brochure p.8.

The Shields Gazette thought that the Governors had decided wisely, for

'as the scheme was a novel one, the Governors (have) wisely deferred the building until time should show more fully what accommodation would be required. With this in view they (have) hired several rooms in the South Shields Mechanics' Institute' (67)

In one respect the Marine School resembled the Sunderland Board of Trade Navigation School and the Newcastle Trinity House School, they all used rooms which were not designed for use as a nautical school. The Sunderland School hired premises in Lodge Terrace, near the docks. The building measured fifty two feet long and twenty seven feet wide and it was divided into two sections by a partition. It had tables for the men and desks in the boys' room, as well as sextants, instruments and chronometers. For a time before the Committee hired it, the rooms had been used by a private teacher.

The Newcastle Trinity House School was similarly well equipped, for we know that books and extra equipment had been purchased with government help in 1857 and 1858. The school had once been conducted in a room below the chapel, but it later moved to rooms in the lower courtyard. An idea of what the school must have been like is given by an advertisement in Marwood's Annual Maritime Directory, Shipping Register and Commercial Advertiser in which Mr. T. Grey

67. Shields Gazette 12 January 1869.

informed his

'numerous friends in Newcastle, Shields and Sunderland...(that) connected with this establishment are an observatory and all the necessary nautical instruments, globes etc... which (are) essential...to those who are desirous of acquiring a thorough knowledge of navigation, both practically and theoretically' (68)

The description of the Marine School's hired rooms published by the Shields Gazette in March 1861, reminds one of the above. The report stated that the rooms had once been used for a drawing class, while the head's room was the former newsroom. The headmaster had purchased desks, sextants, a chronometer, globes and a number of books to form a library. A.P. Ryder in his report for 1858 had recommended that only schools with lending libraries should receive government aid. It has been impossible to ascertain whether the Sunderland Board of Trade Navigation School had a library, but it seems unlikely, as there was already a library for seamen in the town, which had been founded in the Autumn of 1854. The library consisted of books and maps, which had been donated or purchased from money given by such worthies as the Bishop of Durham. The books seem to have been mainly of an educational nature, and Fordyce viewed the library and the navigation school as a means of improving the standard of education amongst seamen. One can be more definite about Newcastle Trinity House, for it had a very good library for its members.

68. Marwood's Annual Maritime Directory, Shipping Register and Commercial Advertiser 1856.

'the sons of the seafaring population of South Shields...upto this time the result is of a purely negative character and doing no good to South Shields. After seven years with little or no result, what is to be done? Are the managers prepared to do new arrangements? What would the late lamented doctor think could he re-appear amongst us of the state of the matter, he would share in the general disappointment' (69)

Hooppell replied on 6 July 1865 that the school had been only open for four years and was designed for seamen who wished to pass the Board of Trade Examinations.

Others, such as Salmon, criticised the school and its benefactor for being misguided:

'The interests of the town and of humanity itself, would have been better advanced if the doctor's well meant but mistaken generosity, had exhibited itself in the more natural direction (he himself having been a member of the medical profession) of a much wanted eleemosynary hospital or infirmary for sick and needy sufferers, rather than a school for nautical education or improvement of those, who, judging from their apparent indifference, do not seem to be sensible of its intended advantages, or to appreciate the founder's affectionate liberality towards them...It is now to be a matter of unvailing regret, that the school and not the hospital, was the favoured object, through which the doctor's good intentions towards his native town, were generously manifested' (70)

Perhaps Salmon did have a point about the sailors' indifference to the school, for during its early years it was poorly attended. During the period March to September 1861 only eleven men enrolled, but the average attendance soon increased

69. Hooppell's scrapbook. Also Shields Gazette 3 July 1865.

70. T. Salmon. South Shields: Its Past, Present and Future 1866. pp.97-8.

from five in September 1861 to twenty five in January 1862. From then on the numbers seemed to fluctuate from as few as three in September 1862 to a maximum of forty five in February 1865. However, once the specially designed building was completed, there was an influx of students; in January 1869, forty eight men attended classes, and after a decline in the summer of that year, the numbers rose again to eighty five in December, with a known maximum of one hundred in March 1870. It seems that the seamen were eager to attend when they had been made aware of the school, for there had been a great deal of publicity in late 1868 and early 1869.

The foundation stone of the new building was laid on 22 April 1867 and the school was completed late in 1868. Both events stimulated a great deal of interest, not only in the local press, but nationally as well. Articles appeared in various publications, including The Shipping and Mercantile Gazette, The London Journal, The Illustrated London News and The Fall Mall Gazette. Generally, the reviews were quite enthusiastic and the Shields Gazette acknowledged that the building was handsome, with 'its perfect equipment and its able teacher'. (71) One of the best descriptions of the school appeared in the Shields Daily News. It began by reporting that the building was in the Elizabethan style of architecture;

71. Shields Gazette 13 January 1869.

'The doors admit you into the hall, having on the left the schoolroom, on the right the Boardroom of the Governors and the classroom. The schoolroom is a noble apartment...furnished with forms and desks for seventy students...At the upper end of the apartment is placed the headmaster's table and two good sized book closets. The classroom...contains another platform and table and is furnished...with a number of forms, terrestrial, celestial and blank globes, blackboards...models for teaching the Commercial Code of Signals, lights and the rule of the road at sea...Ascending the staircase...is an admirable lecture room.' A roomy platform occupies one end...and throughout the rest, the seats rise one above the other as far as the opposite end. The principal article of furniture...is a large lecture table with a pneumatic trough sunk in the floor...for chemical experiments. Besides this larger table, there is a smaller one for an air pump...(Behind) doors opening onto the platform are the study of the Headmaster and the room in which the apparatus is kept. The latter is fitted along its south side with glass cases in which is already a fine collection of apparatus and models... Adjoining...is a smaller room...used as a library...Corresponding to this room on the other side of the staircase is another apartment called the museum. Ascending from the second floor, a flight of stairs brings you to the apartment of the housekeeper.... Ascending still higher you reach the nautical observatory and the compass room. Above this room is the telescope room and revolving dome. The telescope is of the kind known as equatorial...and is moved by clockwork, so as to travel at, the same rate as the earth in its rotation...The clear aperture of the telescope...is seven inches...(and) has a smaller one attached to it, for use as a finder.' (72)

Mr. John Martin of South Shields had obtained the order to supply the telescope and the accounts for 30 June - 31 December 1868 show that it cost £127. The telescope was half an inch

larger than the one purchased by Durham University. It, indeed, seems fair to conclude that

'with instructional appliances at its command, such as these, they could not be excelled even at any of the national universities were navigation and practical seamanship to be taught within their walls' (73)

The universities had shown little interest in either subject, possibly because they did not feel that vocational training was their task. The local Durham College of Physical Science founded in 1871, (an event unconnected with the closure of the Newcastle Trinity House Navigation School) concentrated its efforts on mine engineering, physics, chemistry and geology. It was not until the University Calendar for 1892 that Robert Weighton is listed as the Professor of Engineering and Naval Architecture, for the engineering school had only been established the year before. According to Whiting in his The University of Durham, much of the finance and apparatus for the laboratories had been provided by the North East Coast Institution of Engineers and Shipbuilders, but the first two decades of the college's existence had been spent in

'squalid discomfort in a number of rooms rented from the Coal Trade Chambers Company, the Wood Memorial Trustees, the College of Medicine and the Literary and Philosophical Society' (74)

and not in specially designed rooms. New extensions had been added as soon as money became available. Even after 1892, few mentions are made of marine engineering in the prospectuses,

73. ibid. 13 January 1869.

74. E. A. Bettenson. The University of Newcastle upon Tyne 1971 p.22.

for prominence was still given to mechanical and mine engineering and naval architecture. This last subject included an engineering bias, but for a time students had to pass a preliminary examination in arts subjects for science graduates, so it seems unlikely that the college's courses were of interest to seagoing engineers and seamen. Such men would have felt that the courses concentrated on the theoretical, and furthermore, they required three years of full time study. Thus, any seamen who wished to attend would have had to find the time and money to support themselves. It was not until 1900 that the University Calendar announced that an engineering and naval architecture scholarship had been established so that the

'holder (could) attend, without payment of fees, the two year course of study prescribed for the College Certificate in engineering or naval architecture.

Candidates to be nominated by a firm or company contributing £10 or more per annum to the Department of Engineering or Naval Architecture. Each firm may nominate one candidate for the scholarship, which is awarded as the result of competitive examination held in alternate years. Scholarships (are) tenable for one year but renewable if progress is satisfactory.' (75)

The scholarship was to be awarded alternatively to an engineering or a naval architecture student. .. similar system was to be established at the Sunderland Technical College after consultation with the local shipbuilding, ship repairing and engineering works in 1903. Their scheme was to differ in one fundamental respect from the Durham University scheme, for

the Sunderland students were expected to attend lectures full time during the winter months and spend the summer in their places of work. At the end of three years' study the successful student was awarded a College Diploma. The Sunderland Technical College was possibly one of the earliest institutions to offer what is now described as a sandwich course.

The College had been established in 1901 to educate people who worked in the

'mining, engineering, shipping, agricultural and the other industries of Sunderland' (76)

It can be said that the institution did fulfil most of these objectives set out at the beginning of this century, but in some respects, it was something of a failure, for in 1892, a Special Committee established by the Library and Museum Committee had recommended the organisation of technical instruction so as to include naval architecture, marine engineering, navigation, nautical astronomy and marine and domestic cookery. The Technical College offered no daytime courses in marine cookery, nautical astronomy or navigation. Only during the evenings was a teacher employed to lecture in navigation or nautical astronomy to the men preparing for the Board of Trade Examinations. (77)

With the Sunderland Technical College and Durham University College of Science concentrating on naval architecture and

76. Sunderland Technical College prospectus 1901-2. p.4.

77. see Chapter 7.

engineering, the Marine School had no real competitors. Between 1861 and 1902, 3634 of its students gained their certificates. For over twenty years, there was no other institutional schools in the area, as by 1880, both the Sunderland Board of Trade Navigation School and Newcastle Trinity House School had closed. The nearest institutional schools were at Leith or Hull, which would have required men from the north east ports to undertake a long journey by sea or train. As the years passed, the Marine School gained supremacy in the education of seamen, and soon students were being attracted from all over the country, but still not everyone was satisfied.

An article appeared in the Nautical Magazine in 1881 calling for a state assisted Mercantile Marine College, which would educate boys beginning their seafaring careers and older men preparing for the certificate examinations. William Allingham was also critical of the existing colleges, for

'although (they were) highly commendable from a lofty theoretical point of view, I am somewhat inclined to disbelieve their efficiency when regarded from a practical plane...There is a great danger of scientific smatterings being scattered broadcast among our mercantile marine officers by mistaken shore people, who are utterly ignorant of a life on the ocean wave' (73)

He was, no doubt, of the opinion that educated mariners should be the teachers in such a college. The proposal was made again in 1891 and it was hoped that the Board of Trade and the Government would assist financially. It was also

73. W. Allingham. London Shipmasters' Society. Paper 21
21 October 1892. p.6.

thought desirable that the Science and Art Department should play a greater role in the examinations for seamen, by preparing the papers, and

'Before an officer could serve he would have to have a college certificate and before he could attain higher rank, he would have to pass through a more severe course of study' (79)

Furthermore, it was suggested that a system of scholarships should be founded to enable the best officers to study on full pay. The proposals had some support and Duncan Forbes suggested that there should be a central college with branch schools in the outports, which would ensure a consistent standard of teaching.⁽⁸⁰⁾ The Shipmasters' and Officers' Federation was also in favour for

'technical training is extolled throughout the land, but its beneficent sway does not appear to extend beyond low water mark. No one can conscientiously deny that a nautical college is infinitely more essential to the well being of the state than an agricultural college' (81)

Generally, the feeling was that seamen had not received a fair share of the state assistance which was available. A similar claim was to be made with regard to the provision of evening education for seamen and to a lesser extent, engineering apprentices.

79. N.M. Vol. LX. 1891.p.112.

80. See ibid. pp.153-4. D. Forbes owned a nautical academy in Southampton.

81. ibid. p.1008.

CHAPTER 7.

Evening Education for Seamen and Apprentices.

The speed with which the proprietary and institutional schools had to prepare their pupils for the Board of Trade Certificate Examinations has already been acknowledged. The process of undigested teaching was carried on during the mornings and afternoons and no doubt, many of the schools continued 'cramming' their pupils in the evenings as well. In their defence, it has to be remembered that the students expected quick results and would find another teacher if the education provided did not proceed quickly enough. This chapter will consider the attempts that were made to break out of this tradition and provide seamen and apprentices with a wider education. Finally, an attempt will be made to ascertain if only the institutional schools tried to make curricular innovation or whether the proprietary schools were involved as well.

It has been impossible to discover whether the majority of proprietary schools operating in the 1840s and 1850s responded to the demand for evening education. However, it seems likely that some proprietors offered evening tuition to those seamen who were having difficulties with some aspect of the examination. Perhaps a small number of sailors would be invited back in the evening on an ad hoc basis. It was not until the late 1850s that at least one academy opened on a more formal basis. Alexander Baharie began to open

between six and nine in the evening, possibly as an attempt to attract more students to his school.

Another academy in Sunderland, that of Richard Crick's in Hendon Street and later in Laurence Street, began to open for eleven hours each weekday. One of his advertisements stated that he offered tuition from

'8 till 12 mornings; 1 till 5 afternoons;
6 till 9 evenings: half day on Saturday' (1)

Crick's school was in direct competition with Saharie's during the late 1850s as it was located in the same street.

A third navigation school to open during the evenings was Thomas Winsley's in South Shields. His early advertisements make no mention of his opening hours, but the Blyth Pictorial Almanac for 1861 includes an advertisement which stated that

'the hours of attendance are from 9 a.m.
to 8 p.m. daily, except Saturdays, when
the academy closes at one o'clock' (2)

It has not been possible to ascertain for how many years Winsley continued to open in the evening, but by 1903, the practice seems to have ceased. The reasons for Winsley's giving up evening education are obscure, but he was competing against the Marine School and the School Board Evening Classes. North of the River Tyne, G. Marshall of North Shields opened twelve hours a day from 9 a.m. to 9 p.m.

1. Reed's Tide Tables 1858. p.64.

2. Blyth Penny Almanac 1861. End paper.

It seems then that only a minority of the proprietary navigation schools opened in the evenings. What evidence that still exists could be misleading, as it suggests that the majority were like Thorn's branch school in Sunderland, open only in the morning and afternoon. Even the schools operating later in the century are a mystery, as they left very few records.

As to the engineering academies, we know that two were definitely open in the evenings. An insert in Reed's Engineers' Handbook to the Local Marine Board Examinations, informs us that W. H. Thorn and Sons were open from

9 a.m. - 4 p.m. - 5 p.m. - 7 p.m.

However, their Book of Useful Formulae published during the early years of this century, contains no information as to when the school was open, and the sort of education provided in the evenings, as in the other proprietary schools, is a mystery. It would seem safe to conclude that they continued with the 'cram' for the Board of Trade Examinations. However, it seems that W. B. Thompson of Borough Road, North Shields, offered a different curriculum on Monday evenings, for his advertisement stated that he was giving

'Free lectures on engineering for apprentices...
Monday evening at 8.0' (3)

There can be little doubt that Thompson was thinking of the future financial success of his school, for he probably

3. Shields Gazette 29 October 1889.

hoped that when the apprentices later wanted to study for the Board of Trade Certificates, they would return to his school. His reason for offering free lectures is unknown, but it was probably an attempt to counter the increased competition from the evening classes held by School Boards, Public Library Committees and the institutional schools, such as the South Shields Marine School.

The Marine School, however, was not the first institutional school to offer evening classes. On 5 October 1835, W. Finwell of the Newcastle Trinity House School petitioned for permission to keep a night school on four evenings a week during the winter months. No details exist as to the subjects offered, but when Thomas Grey became the new schoolmaster in 1842, he again applied for permission to organise an evening school. It has not been possible to ascertain for how long Grey operated this venture, but an advertisement in Furnbull's Shipping Register for 1850 makes no mention of the evening school. It seems unlikely that the evening school continued after Playfair's re-organisation, and the Reports of the Science and Art Department make no mention of it. Playfair's plan for the Newcastle School was based on the Hull Trinity House School, where evening classes were organised for only a brief time, as they were not a success. Thus it seems safe to conclude that he would not have incorporated an evening school into his proposals for Newcastle. (3a)

3a. see also Chapters 2 and 6 for information on his re-organisation of the day school at Trinity House, Newcastle.

we can be more certain about the Sunderland Board of Trade Navigation School's evening classes, for Fordyce observed in his History & Antiquities of the County Palatine of Durham that

'The school for apprentices and seamen is held in the evening as well as the daytime' (4)

Details of the school's classes appear in some of the advertisements, including that incorporated in Reed's Tide Tables for 1864. "The evening classes were

'open all year round... These classes are specially recommended to seamen belonging to the Royal Naval Reserve that they might improve themselves in the evening while they are on drill during the day' (5)

The fees to attend the evening classes were one shilling a week, but by 1870, the apprentices and boys were only charged 6d. per week. Possibly, the reduction had been made to encourage more to attend. The Science and Art Department Report for 1858 shows that 101 trade apprentices and 58 carpenters attended during the evenings. The average evening attendance that year was 9.6 boys and adults, with a rise to 16.6 the next. However, in 1860, the average attendance decreased to 9.57, with only 11.6 the next year. The final year for which we have figures is 1862, when only 10.1 adults and boys attended on average. This decline must have continued for later advertisements refer to 'courses for boys interested in the civil service and other examinations.

4. Fordyce. op.cit. p.160.

5. Reed's Tide Tables 1864. p.40.

Captain J. F. E. Donnelly was critical of the education provided in the evening classes organised in the Board of Trade Schools, such as the one in Sunderland, for he wrote that

'the instruction in the case of apprentices in the evening classes (is) of a very elementary nature, such as it is scarcely within the province of this Department to communicate' (6)

Such classes, nationally, no doubt, satisfied the needs of workers in many industries for some had received little in the way of formal education in their childhood, because their parents had sent them to school only when they could afford it, and when they did attend they were given instruction only in the rudiments of reading, writing and arithmetic. Locally, many of the seamen were also receiving elementary instruction or education so that they could pass the Board of Trade Examinations. Not only were the early institutional schools guilty of 'cramming', but so was one of the later ones.

The Sunderland Technical College continued the system of 'cramming' men for the Board of Trade Certificates during the early years of this century. Captain C. Watson(7) was employed during the evenings to instruct in navigation, nautical astronomy and compass deviation. (8) The trigonometry instruction which he gave was

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6. C. F. E. Donnelly. Report on the system of aid to Navigation Schools. op.cit. 1863. p.2. Donnelly was a H.M. Inspector. See Chapter 2 for his work in connection with boys' nautical schools.
 7. See Chapter 5.
 8. Sunderland Technical College Prospectus 1901-2. p.53.

'specially adapted for youths intending to go to sea that they may have a thorough grinding in the elementary stages and thus be enabled to pursue their studies at sea' (9)

The nautical astronomy was aimed at extra masters and masters in command or those desirous of extending their knowledge of the subject, while the course on compass deviation was practically illustrated with Beale's deviascope. It also seems that Watson taught seamanship, but it has not been possible to ascertain for how long he was employed at the Technical College. In subsequent prospectuses of evening classes, no mention is made of Watson's teaching and his name does not figure in the list of re-appointments for the 1902-3 session contained in the Sunderland Technical Education Committee Minute Book for 1899 - 1902. However, an entry for 30 June 1902 stated that on the recommendation of the Principal, it was resolved that the salary of Captain Watson, viz. six shillings per hour for one evening of two hours,

'be paid to the Y.M.C.A. for his services in the teaching of navigation and nautical astronomy at that local institution during the ensuing winter' (10)

No further mention of Watson's name appears in any of the minute books, and furthermore, his name is not included in any of the local trade directories published after 1906. It would therefore, seem safe to conclude that he must have taught at the Sunderland Technical College, or at one of its

9. ibid.

10. Sunderland Technical Education Committee Minute Book, 1899 - 1902. 30 June 1902.

associated centres, for only two or three years at most. Not all the schools were willing to continue with the age old system of 'cram', and some attempts were made to offer something better.

One such attempt was provided by the Durham College of science during the 1870s. The subjects on offer included mathematics, algebra, trigonometry, experimental physics, practical mechanics, heat and the steam engine. Whether such courses were of interest to seamen or apprentices, it is hard to deduce, but it seems more than likely that many apprentices would have been too ignorant to understand lectures of university standard. Some sea-going engineers may have attended some of the lectures held at the college, for occasional students were encouraged to go to any classes of interest. Seamen would, no doubt, have found it difficult to attend on a regular basis, and some may have thought that the college lectures were too academic, just as they had found the Science and Art Department Examination Classes to be. A more serious attempt to provide a wider education for seamen was undertaken by the Marine School of South Shields.

Winterbottom's Statutes for the school, dated 1836 and 1837, required that

'a lecture(of) not less than one hour duration, shall be given four evenings each week, during the winter months each year, beginning in October and terminating with the end of March' (11)

11. Winterbottom, Statutes. op.cit. See also Chapters 2 and 6 for other information on the Marine School, South Shields. Appendix I contains biographies of Hooppell, Dobson and Flagg, the headmasters.

The lectures were to cover a variety of subjects in such branches of Natural Philosophy

'as shall be thought interesting to the sailor' (12)

Winterbottom was particularly desirous that

'the laws of magnetism shall be particularly attended to. Magnetism, hydrostatics, pneumatics, the principles of optics,... electricity, meteorology, or the science which treats of the atmosphere and its phenomena, shall be clearly and particularly explained; and the elements of Marine Law, such as the power of raising money on the ship and the master's duty as to the freight and insurance also shall be expounded; and as it is of the utmost importance that a sailor should be made proficient in that most sublime of all sciences - astronomy, a science which can alone enable him to form some idea of the magnitude of the works of his Creator' (13)

any person could attend any or all of the lectures, as long as he paid the fees set by the Governors, for the benefits of the school 'should be like the light of heaven, equally distributed to all'. (14) when the lectures finally began, the scholars or members of the school could attend without paying the sixpence admittance fee charged to the general public.

The scholars were to be periodically examined in the lecture subjects by the master and it was

'recommended that there should be an examination in the evening of one day in every week on which there is no lecture' (15)

12. ibid. p.10.

13. ibid.

14. ibid.

15. ibid. p.16.

such examinations were to be either viva voce or written and the school could award its own certificates in the theory of navigation, with the scholar's attainments in the other branches of instruction shown as well. From 1864, the school held examinations at the end of the astronomy lectures with scientific books as prizes. Later in 1891, the school began to award its own certificates to the apprentices and boys attending the Boys' Department. (16)

The Monthly Rolls and Attendance Register for October 1861 records that the

'first evening lecture was delivered on the thirtieth to a very large audience in the hall of the Mechanics Institute. The pupils were present.' (17)

The subject of the lecture was the objects and the character of the Marine School. A regular course of lectures does not seem to have started until January 1862, when lectures on

'astronomy and other scientific subjects... (were) given on Monday and Thursday evenings in the Seaman's Hall, Fowler Street' (18)

Hooppell's lecture notes for November 1862 show that he gave a series of talks on the shape and size of the earth, land distribution, circulation of water, the Gulf Stream, the atmosphere, the surface of the moon, sunspots and the magnetic needle, the interior of the earth and comets.

By 1863, Hooppell was giving the required four evening lectures a week, for an advertisement reads that

16. See Chapter 2.

17. Monthly Rolls and Attendance Register, 1861-1865.

18. Hooppell's newspaper scrapbook.

'lectures on physical geography will be delivered on Mondays, Tuesdays, Thursdays and Fridays from 6 to 7 p.m.' (19)

However, by 1867, the number of lectures had declined to only two a week, but with the opening of the new building in 1869, Hooppell was once again delivering the required four lectures a week. The subjects were

'Pneumatics and meteorology on Tuesdays and Fridays. Astronomy on Mondays in the new telescope room and magnetism and deviation of the compass on Thursdays' (20)

No doubt, Hooppell was trading in on the renewed interest in the school, but the burden of teaching in both the daytime and evenings must have been very great. In 1872, the number of evening lectures was again reduced to two a week, and we do know that Hooppell was not in very good health. Thomas Lobson, the second head, also continued the practice of giving only two lectures a week, but it has to be remembered that he was over sixty when he was appointed to the head-mastership of the school.

As at the Sunderland Board of Trade Navigation school, the evening lectures seem to have been well attended when they first started. However, by March 1864, Hooppell complained in the Monthly Rolls and Attendance Register that only five people had attended one of the lectures with the result that the remaining lectures were postponed. The fact that public

19. ibid.

20. ibid.

interest waned is confirmed by the fact that reports of the lectures ceased to be published in the local newspapers. Perhaps one reason why so few seamen attended was that it seems that all the lectures were attended by 'many of the principal inhabitants of the town'. (21) It could be argued that the rough seamen would probably have felt uncomfortable in the company of such people, and the same thing seems to have happened at the many mechanics' institutes established in the early nineteenth century. The institutes at York, Leeds, Halifax and Bradford found that many workers stopped attending when the middle classes started to use the institutes for soirees and non-scientific educational activities.

A second reason why the attendances at the Marine School Evening Classes declined was that the lectures had stopped being a novelty. Winterbottom had wanted them to be illustrated by experiments, and here one can discern the influence of the ideas which had guided the provision of scientific lectures in many mechanics' institutes at about the time that Winterbottom was writing. Newspaper reports confirm that his wishes were carried out and one stated that

'These lectures were plentifully illustrated, as we understand the future lectures will be, with diagrams and models...many interesting maps, charts and instruments' (22)

It is possible that some of the audience only attended to witness the experiments, for Harrison in Learning and Living 1790 - 1960 and Kelly in A History of Adult Education in

21. ibid.

22. ibid.

Great Britain both believe that the same attitude had adversely affected the mechanics' institutes.

The final reason why there was a decline in attendance could have been that there was a great deal of competition from other lectures. Judging by the advertisements in the local newspapers, visiting lecturers formed the main source of entertainment, and Kelly in his book refers to the fact that itinerant lecturers were a feature of town and country life during the early and middle nineteenth century.(23) Many talks were given in South Shields on religious themes and social problems, especially intemperance. There was also competition from the South Shields Public Library Committee, which organised evening classes on science and art subjects for the Science and Art Department Examinations from 1869. For a time, Hooppell taught a class in advanced mathematics for the Committee, but he was forced to give it up as his 'engagements were so pressing'(24). It must be remembered that by then Hooppell was once again the sole master at the school. It is hard to ascertain whether seamen attended the Science and Art Department classes, but it seems unlikely. Regular attendance was one of the Department's requirements and seamen were notorious for their irregular attendances, as their profession could call them away at any time when a ship was available. It would have been very difficult for them to attend a series of lectures over a period of at least six months. Also the curriculum for the science and art

23. See F. Kelly. A History of Adult Education in Great Britain Liverpool University Press. 1970. pp.115.

24. Shields Gazette 15 November 1872.

Department Examinations in navigation and astronomy were different from that set for the Board of Trade Examinations. The former was based on a knowledge of principles, the latter on empirical methods, so the two did not concur. Furthermore, there was little advantage in a seaman holding a Science and Art Department Certificate, as it did not help him gain promotion.

The only advantage which the Public Library Science Classes had over the Marine School lectures was that they led to nationally recognised academic awards which could be used by an employer to judge a man's educational attainments. The Marine School's prizes were not nationally recognised, so they were not of much value to the serious student. The Marine School was then forced to attract an audience by using a number of different strategies.

One idea was to get specialists, such as Captain Lucock, to give talks on such subjects as the rule of the road at sea(25). Another alternative was to invite a person of academic standing to lecture, as in 1873 when Professor W. Aldis of Durham College of Science talked about

'the study of mathematics, especially in connection with physical science' (26)

A third way of attracting a larger audience was to widen the scope of the evening lectures. Earlier in the century, many of the mechanics' institutes, including those at Bradford and Wakefield, had tried this solution with some success. They abandoned the practice of having a series of lectures on a

25. See Chapter 6.

26. Shields Daily News 22 January 1873.

subject and opted for programmes of single lectures on a variety of topics, but during the winter of 1869, the Marine School organised a course on physiology. There were to be

'twenty five lectures. Illustrated with diagrams and experiments...commencing on Monday, November 1 at 8 p.m. The friends of scientific education in South Shields, ladies as well as gentlemen, are particularly invited to attend' (27)

The editor of one local paper had great hopes for the lectures, as he wrote that "

'We are very pleased to chronicle a most disinterested offer made by four of the medical gentlemen of the town...(who) have consented to conduct a class in physiology, a most important and most interesting subject, each one taking a short course of six lectures...we hope the learned lecturer will have a crowded audience as well to testify the popular interest in the subject, which is in reality one of vital performance.' (28)

It seems that the editor's hopes for a large audience were realised, but it would, perhaps, be a little naive to consider these as the forerunners of Flagg's later classes in First Aid. (29)

During the same season, a course of twenty five lessons on geology was given by G. Lyall F.G.S. The next year witnessed a series of lectures on sound and light, while in 1872, a series on theoretical mechanics was offered, which would have, possibly, been of great interest to marine engineers and engineering apprentices. Other lectures seemed to take a historical bent with talks on the early voyages of discovery,

27. Hoopnell's Newspaper Scrapbook.

28. ibid.

29. See Chapter 6.

the invention of charts and instruments of astronomical observation, and the early history of navigation. No doubt, some seamen would have been interested in such subjects and attended accordingly.

The practice of inviting guest speakers seems to have ceased with the appointment of Thomas Dobson in 1875. There also seems to have been a narrowing of the evening curriculum again, for Dobson only gave lectures on pneumatics, optics, storms, astronomy, compass deviation and the steam engine. A survey of the advertisements in the Shields Gazette for the years 1876 to 1885 gives the impression that there was little variation in the subject matter of his lectures, for every year he seems to have repeated the same course of lectures. Possibly, he made only minor revisions to his lecture notes and only introduced new topics when necessary; for instance on 3 February 1884, he gave a talk on 'the meteorological history of the great cyclone of 26-27 January 1884'. Such repetitions probably discouraged people from attending, and the result was another decline in numbers.

When Flagg was appointed to the headmastership in 1886, he was aware of the lack of interest, for he gave only occasional evening lectures. He seems to have lectured on only four occasions during the winter of 1887; in October on 'Dr. Winterbottom'; in November on 'what is technical education?' and twice in December on 'The Mariner's Compass' and on 'Going to sea'. This last named subject is rather interesting, as Flagg never seems to have been a seaman, so the nature of his lecture is open to speculation.

During 1888 and 1889, the lecture rooms were used by a variety of bodies to hold lessons on medicine, the humanities and music. In February 1889, a Marine School lecture was given on astronomy, but no details have survived as to the lecturer. However, in January and February 1890, Flagg delivered a series of lectures on 'ship's magnetism and the mariners' compass' (30), while in the following year, lectures on astronomy were given in the Gospel Temperance Hall because the lecture room was in need of repair. Further lectures were given in 1892 on the Royal Navy and its warships, the growth of ship's armour, armaments, steam propulsion, foreign navies and modern experiences of sea fights. It is possible to discern a return to an emphasis on nautical subjects, but it was strange that a school which aimed to educate men for the mercantile marine should show such an interest in military subjects. The explanation may have been connected with the growing anxiety about Britain's ability to defend herself during a war. There could also have been an ulterior motive in holding such a series of lectures, as perhaps Flagg hoped to encourage his students to think about joining the Royal Navy or the Royal Naval Reserves. On the other hand, it could have merely been an attempt to increase the numbers by dealing with a topical subject. If this was the case, the attempt does not seem to have worked, for in his report given on 9 August 1892, Flagg recorded that

30. Shields Gazette 20 January 1890.

'the attendance at the public lectures in February last was not satisfactory. There still appears to be little...interest either by seamen or the public...(in the lectures)' (31)

Wally in his History of Adult Education comments that the mechanics' institutes had experienced a similar difficulty with their science lectures earlier in the century. (32)

Other agencies, including the Vicars of Ganton and Hornsea in Yorkshire, who organised night schools in the 1860s, also found it difficult to get workers to attend, so the problem must have been a national one. However, the attendance figures at the Marine School seem to have improved a little during February 1894, when Plagg lectured on experimental mechanics, but the improvement was shortlived for at a special Committee Meeting on 2 September 1895, it was decided that

'the public lectures by the head should be suspended until otherwise directed by the Governors' (33)

This decision may seem surprising given the renewed interest in science and technology in the 1890s, but the Marine School was being pressurized by the competition from the South Shields School Board Evening Classes, which were being held at various centres in the town. Such classes covered a variety of subjects including mechanics, astronomy, steam, light and heat, all of which fell within the scope of the syllabus of the Marine School lectures. Furthermore, many of the local employers encouraged their apprentices to attend the School Board Evening Classes as they led to certificates awarded by

31. Governors' Minute Book, 1891-1907. 9 August 1895.

32. See Wally, op.cit. p.124.

33. Governors' Minute Book, 1891-1907. 2 September 1895.

the Science and Art Department. The old notion held by some employers in the nineteenth century that evening classes and certificates only showed that a student had a knowledge of theory, was finally dying out.

Flagg, also, must have realised the advantage in offering such courses, for in 1888, he established a course of evening classes in navigation 'in connection with the Science and Art Department'. (34) By February 1894, classes for 'old boys' were held on Tuesday and Friday evenings and when Flagg submitted his next report, he declared his intention to admit engineering apprentices to the evening classes. Perhaps Flagg realised that if Britain was going to compete successfully with Germany and America, the artisans needed to have a more theoretical education as well as a training in the workshop.

In 1894, mathematics classes were set up to assist apprentices in their studies after leaving the board schools. Extra evening staff had to be employed and Mr. Frail was appointed to teach machine construction and steam. In his report given in August 1895, Flagg noted that

'the evening classes continue to be a success and can be regarded as the best technical education for engineering apprentices in the borough' (35)

The classes were so successful that other staff had to be employed for the evening school. The School Committee in February 1896 reported that Mr. Robson had been appointed to teach applied mechanics and Mr. Carter to take the mathematics

34. Shields Gazette 11 September 1888

35. Governors' Minute Book, 1891-1907. 6 August 1895.

class and teach in the boys' department. (36) By 1896, the School Prospectus informs us that Mr. Templeton had replaced Mr. Carter and all the evening staffs' wages were paid from the grants earned by the students in the Science and Art Department Examinations. Flushed with success, Flagg was soon to make further recommendations for the development of the Marine School and so ease its financial difficulties.

The Local Government Act of 1888 which had established the new county councils, the Technical Instruction Act of 1889, which allowed local authorities to raise a penny rate to support technical education, and the Local Taxation (Customs and Excise) Act, by which certain sums of customs and excise duty were allocated to relieve the rates or subsidise technical education - all could have helped the Marine School out of its financial crisis. In his report of 2 February 1893, Flagg drew the Governors' attention to

'the grants made annually by Parliament for technical instruction and from which Liverpool has apportioned a large sum of money to support a nautical college. It is reported that Sunderland is about to use the same means to form a similar college. Ought not an application be made to the Corporation of South Shields to allocate a certain sum yearly from its share of the same fund to aid the resources of the Marine School.' (37)

The Governors rejected the head's suggestion on the grounds that they wanted to safeguard their independence. However, two years later Flagg noted that the evening classes in

36. See Chapter 2 for information about the boys' department.

37. Governors' Minute Book, 1891-1897. 2 February 1893.

technical subjects ought to be 'encouraged further to make our institution to serve as a technical college for south shielós'. (38) Again no application was made to the Corporation, but there can be little doubt that Flagg must have been aware of the developments in Sunderland, where events were taking place which would lead to the eventual opening of the technical college (39).

The situation remained unchanged until 21 January 1903, when Flagg recommended that the science classes should be continued, and

'more technical instruction... provided. It will be noted that in the record of the present work of the school...allusion is made to a new class which has started this winter to provide special preparation for apprentices in their last year before going to sea. This is the first step towards technical instruction' (40)

H. Bithel-Jones, the headmaster from 1903, developed the idea further when in April 1904, he suggested that Evening Technical Classes for Engineering Apprentices should be established. The scheme was to be a progressive one; during the first year, elementary mathematics and geometrical drawing were to be studied; in the second, practical mathematics and elementary physics; in the third year, theoretical mechanics, elementary machine construction or elementary naval architecture; in the fourth year advanced machine construction or naval architecture, elementary steam and elementary mechanics, and in the fifth year, marine engineering, advanced magnetism, electricity, dynamo-

38. ibid. 8 August 1895.

39. See Chapter 6.

40. Governors' Minute Book. 21 January 1903.

electric machinery and higher mathematics. About the same time, Sunderland Technical College was offering ' a definite course of study...(for) apprentices' (41) in its departments of mechanics, physics, electrical engineering, mathematics, civil and mechanical engineering and naval architecture. The students who successfully completed a course were awarded the Sunderland Technical College Certificate of Proficiency at ordinary, higher or honours level. The ordinary level certificate in naval architecture involved the study of geometry(advanced), mathematics(advanced), steam engine (advanced) and naval architecture (advanced). For a higher level certificate, students studied applied mechanics (advanced) machine construction and drawing, mathematics (honours) and naval architecture, while the honours certificate included a study of mathematics, boiler construction, applied mechanics and naval architecture. The student was expected to study for four years, just like a student who was reading for a Certificate of Proficiency in mechanical engineering. In this case, the first year was a preliminary course of mathematics, applied mechanics, steam and the steam engine. The second year consisted of advanced mathematics, mechanics, practical plane and solid geometry, while the third year included lectures in mathematics (honours), steam and the steam engine (honours), machine construction (elementary) and boiler

41. Sunderland Technical College. Prospectus of evening classes 1901. p.10.

construction. The final year consisted of a study of applied mechanics (advanced), machine construction (advanced) and engineering laboratory. Such a course on mechanical engineering would no doubt be of interest to those who intended to go to sea.

Bithel-Jones' suggestion was discussed by the South Shields Secondary and Technical Education Committee in June 1904 for it was proposed to bring about a

'satisfactory scheme for co-ordinating the educational work of the Borough...(and) that the Evening Department of the school should... be recognised as the centre for instructing apprentices in marine and other engineering works, thereby carrying out a well defined and definite course of study and at the same time avoiding unnecessary duplication of such classes' (42)

A letter dated 14 July 1904 from A. E. Leete, the Secretary of the South Shields Education Authority, informed the trustees that the authority was willing to recognise the Marine School as the local centre for technical instruction. However, the question of finance was not referred to, as the Governors had hoped for assistance with building alterations and the purchase of equipment. The School Committee replied that the arrangements could only proceed if the local education authority offered financial aid. The education authority agreed and granted a capitation grant of ten shillings for each student who satisfied the regulations of the Board of Education. Such students also had to have

42. Technical Education Subcommittee Minutes. 14 June 1904.
South Shields Corporation Minutes p. 897.

'made not less than twenty attendances throughout the session and are not reckoned for more than two subjects per session for the purpose of the capitation grant' (43)

Two further conditions added by the Technical Education Sub-Committee in November 1904 required the evening classes to be open to inspection by any member, or the secretary, of the local education authority and that a joint management committee should be established. At their meeting on 13 January 1905, the Governors voted in favour of a joint committee of Governors and council representatives. A memorandum of July 1905 from Mr. A. Leete set out the aims of the committee as being that

'they hoped that all the courses of applied science be carried out at the Marine School ...and to foster and develop a co-ordinated system of instruction suitable for training young men in the principles underlying the practice of their workshop employment with the object of making them more competent and self reliant workers' (44)

The education authority also agreed to terminate the other technical and scientific education courses held in the borough. The situation with regard to technical education in South Shields was unique, for it was the only town in the north east with an endowed Marine School.

The moves which took place in South Shields and Sunderland can be interpreted as a response to some of the debate which had taken place on the question of the education of apprentices. The matter seems to have been first raised by S. C. Sage in a

43. ibid. 16 August 1904.

44. ibid. July 1905.

paper entitled 'The training of Young Marine Engineers', which he delivered at the Institute of Marine Engineers on 23 January 1893. He advocated that at the age of twelve, a boy should start his professional training with an education in mathematics, geometry, elementary mechanics, natural philosophy, mechanical drawing, freehand drawing and a foreign language. At the age of fifteen, the boy should begin his apprenticeship, which would last up to five years. However,

'if the boy is at all anxious to learn... three years are sufficient, but if he is allowed to drift about the shop and pick up his skill and knowledge as best he can, then five years are none too many'. (45)

During his apprenticeship, he should attend classes of a more advanced nature upon the same subjects as at school.

'The boy having served his time... should then enter an engine and boiler making works as an engineer... a year spent with a good firm... should turn him out at the age of twenty one sufficient of a marine engineer to be capable of taking a watch at sea as a junior' (46)

Sage then recommended the introduction of a third grade engineer's certificate as in Holland and Germany. The qualifications for such a certificate would be two years as an assistant engineer in any steam sea-going vessel of above 100 tons net register and the passing of an examination of a slightly lower grade than that for the present second class certificate. Candidates would also have to prove that they had worked in an engine workshop for three years. Before

45. S. C. Sage. The Training of Young Marine Engineers 1893.p.5.

46. ibid.

sitting for the next certificate, a candidate would have to spend one year at sea with a third class certificate. Further two years sea service with a second class certificate was to be necessary before a candidate could take the first class examination. Sage was critical of the existing Board of Trade regulations as they permitted an engineer, who was little over the age of twenty two, to hold a first class certificate and allowed home trade steam vessels to go to sea without a certificated engineer.

The debate was then continued at the local level by groups, such as the North East Coast Institution of Engineers and Shipbuilders. In his paper, J. Fothergill (46a) noted that the Board of Trade regulations were in need of modernisation and that there was little or no excuse for apprentices not to attend evening classes, as they provided a link between theory and practice. Generally, he was not in favour of a five years' apprenticeship as it would exclude many experienced journeymen who had not served a full five years. He felt that an apprenticeship of four years, or just over, was adequate, but after some discussion a letter was sent to the Board of Trade in April 1894 stating that the Institution was in favour of a five year apprenticeship. Generally by the beginning of this century, a majority of the Institution's members, including J. Tweedy, G. Morrison and W. Harrison, were in favour of Sage's proposal, but among its opponents were Hull Chamber of Commerce, the Shipowners' Society and Liverpool Shipowners. (47)

46a. Transactions of N.E. Coast Institution of Engineers and Shipbuilders. Vol. X. 1893-4. p.151.

47. See 1900, iii, 255. Return of Correspondence between Board of Trade and the Representative Societies.

Others, such as F. Westgarth in volume 15 of the Transactions, thought that more care should be taken with the selection of apprentices and that the rules governing their attendance at night classes ought to be applied more strictly, as many boys' education was deficient when they commenced their apprenticeship. Some twelve years earlier in 1886, Ivan LAVOR had already noted the fact and he argued for the better organisation of learning in the workshops, LAVOR wanted

'in every workshop a mechanic of superior skill, whose duty it would be to take charge of the instruction of the apprentices and to teach them how to make, sharpen and use their tools. (48)

Linked with this was to be an effective college education, which would provide a knowledge of the scientific principles behind the workshop practice. Borrowman would probably have agreed with this as long as there was a broad basis to the instruction, for he was also eager that there should be a good general education provided in the elementary schools.

F. Westgarth, however, was sceptical about the value of technical college courses, as he thought the best training was available in the yards. LAVOR wanted the apprentices to attend classes as soon as they began their apprenticeship, as many are not

'sufficiently prepared to receive instruction in pure science' (49)

and there was always the fear that if the interval between leaving school and starting evening classes was too long, they

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48. I. LAVOR. Technical Education for engineers and Ship-builders. Transactions of the North East Coast Institution of Engineers and Shipbuilders 1886-7. vol. 3. p.109.
Borrowman & Westgarth were both members of the Institution.
49. ibid.

would forget much of their previous learning. Under his proposed scheme, the apprentices were to be taught in the colleges by trained mechanics, and many of their evenings would have to be spent doing the homework, which implied that classes would have to be held during the daytime, possibly on two or three afternoons a week. A similar system of instruction seems to have operated for many years in the Royal Dockyard. Some thirteen years later in 1899, the debate was still taking place with Rothergill declaring that he was against such a scheme and against sandwich courses. Lord Armstrong was also known to be in favour of evening classes and as late as 1915-6, Sir Benjamin Browne expressed the view that daytime classes disturbed the boys' workshop experience. The Transactions show he wanted the continuation of the age old system of evening instruction.

For most of the 1890s, the South Shields Technical Education Committee organised its own courses in the many elementary and higher grade schools in the borough. The range of subjects seems to have been as varied as those available in other north eastern ports. In Newcastle, a Science and Art School was established in 1878 or 1879, and night schools were organised in the Public Library, Corporation Street School, Westmoreland Road School, Byker Road School, North Eastern Institute and Elswick Mechanics Institute. The Corporation Street School included thirty two subjects in its syllabus of art and science classes. The Elswick Night School also had

courses in navigation and nautical astronomy and from about 1875, it was under the headmastership of Mr. Henry Evers, (50) who wrote a number of books in the 'Elswick Science Series', which were aimed at the students attending the night school. According to the Science and Art Department Reports, courses in geometry, machine construction, magnetism and applied mechanics were also available. The Institute would have been near the many engineering works sited in the west end of the city and the same subjects were also available at the mechanics' institute in New Bridge Street in the city centre.

Similar courses were on offer in Sunderland, mainly at the Monkwearmouth Colliery School and later at the Church Institute, Hendon. The teachers included some of the men associated with the local proprietary schools including C. S. Metcalfe and A. Metcalfe. (51) A school of art had been founded in Norfolk Street in 1869 and in 1872, it amalgamated with the Monkwearmouth classes to form a new science and art school. In time this school was to evolve into the Sunderland Technical College, but it was to begin life in Norfolk Street and move later to the Town Hall. From its very early existence, courses were offered in geometry, machine construction, applied mechanics and mathematics, but the main emphasis seems to have been on the teaching of art to young ladies. Even in the 1890s, the school still ignored nautical and engineering subjects, so prospective students had to look to other centres, some of which were organised by the Sunderland School Board,

50. See Chapter 5.

51. See Chapter 5.

for scientific teaching. By 1894, the Town Hall School realised that naval architecture, mathematics, theoretical mechanics, sound light, nautical astronomy and navigation could all earn grants, so the school opened branches in Hendon, Hylton Road and Stansfield Street Board Schools. It seems that these branches concentrated on the teaching of drawing and geometry, but a lack of students led to some of the schools closing. In 1897, the remaining School Board centres and the Science and Art School were offering geometry, model drawing, heat, light, sound, magnetism, electricity, chemistry, steam and applied mechanics. The fortunes of the Sunderland Science and Art School seem to vary from year to year according to how successful it had been in attracting students and getting them through the Science and Art Department Examinations.

The provision of evening education in North Shields was mainly organised by the Tynemouth Division of the Northumberland Technical Education Committee. A navigation course was held at Jubilee Street School during the evenings in the late 1880s and early 1890s.⁽⁵²⁾ Courses were also held in marine engineering and it is possible to discern in the case of this subject, the influence of the needs of local industry. The same comment can be made about the classes held at other places including Wallsend, where there were many shipbuilding and engineering yards. Drawing (freehand and geometrical), geometry, mathematics, machine construction, applied mechanics

52. See also Chapter 6.

and steam were all taught at the wallsend centre in the 1890s and early this century. It was also possible to study naval architecture and mathematics at the centre from 1902 and at Walker from 1899. Elsewhere, the nature of local industry also seems to have determined evening class provision and Kelly in his book cites the example of Sheffield where the Governors of the People's College decided in 1853 that the college's curriculum would have to be more aware of the industrial pursuits employing its students(53). However, the evening classes held at Blyth Higher Grade school do not show a similar bias towards the needs of local industry or engineering subjects. Mathematics, geometry and art subjects were usually available, so the emphasis must have been on providing students with a general education. Only later in 1895 were mechanics and steam added to the night school's course, and by 1900 naval architecture was also introduced.

By the end of the nineteenth century, there generally seems to have been a greater interest in technical and scientific education than ever before, except during the 1850s. There also seems to have been some expansion in the provision of evening classes, many of which were aimed at the apprentices employed in local industries. Evening classes were viewed by many government commissions as an integral part of the education of working men. Most of the courses concentrated on engineering subjects, and led to the Science and Art Department Examinations. It will be interesting to see whether this

53. See Kelly. op.cit. pp.102-3.

greater interest was reflected in the numbers attending.

The Northumberland Technical Education Committee Report for the session 1892-3 show that at Wallsend, six students attended for at least twenty geometry lessons, thirteen for naval architecture, twelve for applied mechanics and fifteen for steam. The Report for 1895-6 informs us that eighteen students attended at least twenty geometry lessons, and twelve for applied mechanics. However, by the time that the 1900-1 session was reported, only four students attended twenty or more of the applied mechanics lessons and only two the lectures on steam. Attendance figures also exist for the Walker Science Classes, where eight students attended the course on steam on more than twenty occasions, five the lectures on applied mechanics and thirty the course on naval architecture during the session 1892-3. Some three years later, many courses seem to have been poorly attended, for only three students went to the classes on applied mechanics on at least twenty occasions, twelve went to the course on steam and thirteen, the course on naval architecture. The figures for the session 1900-1 show a further drop, with only nine students attending the elementary naval architecture course, and none of them entered the examination. Fifteen students attended the advanced and honours courses, twelve of whom entered the examination and six passed. Of those who went to the machine construction course, fifteen attended on more than twenty occasions, with eleven entering the examinations and three passing. Eleven attended the advanced machine construction course, with ten

entering for the examination and five passing. It would seem that the chances of passing the examinations were not very great and this may have discouraged some of the students from continuing with their studies or embarking on a course.

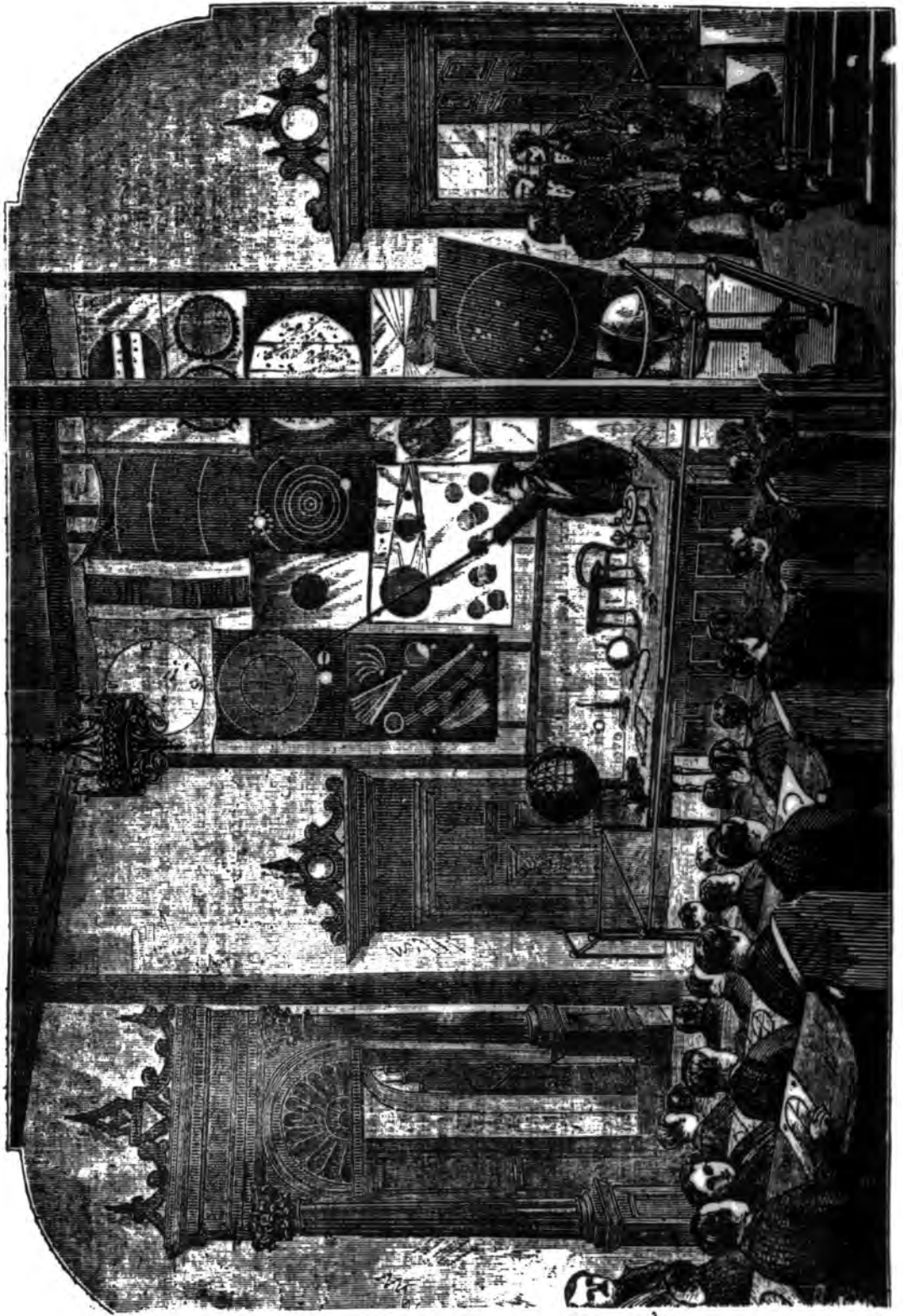
The same reports also include some information about the technical engineering classes arranged in North Shields by the Tynemouth School Board. In 1894-5, twenty eight students attended, but by the next session, the number had dropped to sixteen. A further decline occurred in 1896-7, when only five students attended and none of them entered the examination. The subject was dropped from the syllabus for the next session and in 1898-9, marine engineering was introduced. Eighteen students attended the first series of lectures, thirteen of whom entered for the examination and one passed. During the next session, only eleven students attended, eight of whom entered for the examination with none passing. No further mention is made in the reports of marine engineering being taught in North Shields Evening Classes. The decline in attendance at the classes on navigation in North Shields has already been noted. (54)

A similar decline also seems to have taken place at the Science and Art Department classes in steam, geometry and applied mechanics held at Blyth. Only the naval architecture classes seem to have been slightly more successful, with thirteen students attending during 1899-1900 and seven of them gaining passes in the examination. The next session witnessed

Plate VIII.

Lecture-room, Marine School, South Shields.

Source: London Illustrated News 23 January 1869.



twelve students in attendance at the elementary classes, six of whom passed the examination and three took the advanced course, with one passing.

The attendances at the evening classes held at the Marine School do not seem to have followed the same pattern. In his half yearly report given in February 1894, Flagg noted that the classes for old boys and apprentices were 'well attended' (55) and six months later, he wrote that

'the majority of engineering pupils who leave school for apprenticeship continue to study here winter after winter at evening science classes for marine engineering apprentices.' (56)

The situation seems to have remained unchanged until 1898, when an engineering strike adversely affected attendances, as the apprentices were 'given more work and a good deal of over-time.' (57) (such practices were condemned by Mr. R. Minchcliffe at a meeting of the North East Coast Institution of engineers and shipbuilders, some ten years later). According to the minute book of the Governors of the Marine School, over one hundred apprentices had attended in January 1898, but by the April the full effects of the strike were being felt as only fifty seven apprentices remained. By 1900, the numbers had increased again to seventy and in February 1901, the attendance had risen to one hundred and two. A further increase is recorded in his report given in February 1902, when one hundred and thirty three apprentices attended the evening classes.

55. Governors' Minute Book, 1891-1907. 2 February 1894.

56. ibid. 9 August 1894.

57. ibid. 29 July 1898.

Such statistics are, no doubt, interesting, but they fail to tell us how many students ceased to attend during the course and what proportion of the apprentices employed in the local engineering works actually attended.

Robertson in his article, 'Technical Education in the British Shipbuilding and Marine Engineering Industries, 1863-1914' suggests that complete statistics concerning the proportion of all apprentices attending are not available. It does seem, if one uses the information in the reports of the Northumberland Technical Education Committee, that only a small number of apprentices attended evening school and that the educational facilities were not fully utilized. A number of firms on the north east coast found that despite persuasion, only about 20 per cent of their apprentices passed any evening examination. Figures also exist for the Sunderland Evening-Class Session of 1913-14 which show that only 38 per cent of engineering apprentices and 12 per cent of shipbuilding apprentices attended, while in Hebburn, the figure for shipbuilding apprentices was even lower with only 9.3 per cent attending. Such figures seem to contradict Vardy's claim, made at a meeting of the North East Coast Institution of Engineers and Shipbuilders in 1907-8, that 80 per cent of the boys in the Wallsend works attended any class, but his estimate that only 4½ per cent gained a pass seems reasonably correct. Dr. G. Hunter conceded that the numbers attending had dropped and that the engineering firms were finding it increasingly difficult to persuade boys to attend. He felt that it was due to the fact that the boys were expected to attend on three

evenings a week to study three subjects. The figures above also seem to refute H. Thompson's claim that a large number of apprentices in Sunderland attended as they wanted to go to sea. Most of the statistics concerning the local ports seem to be in accord with those given by V.A. Mundella, which showed that in London only 24 per cent of apprentices aged fourteen to eighteen attended evening classes and of that number, 60 per cent were in the engineering trade and 22 per cent were shipbuilding apprentices. (58)

Flagg's statistics give no information either as to how many students failed to complete a course, but figures for the years 1908-10 show that during the session 1908-9, 24 per cent of those apprentices who enrolled for a course dropped out, while the percentage for the next session was 22 per cent. Such figures agree with Vardy's claim in volume 24 of the Transactions of the North East Coast Institution that only 20 per cent of those attending were inclined to study seriously, and of the remaining percentage many failed to complete the courses. There seems to be good reason to believe that there were few changes between the first decade of this century and the last decade of the nineteenth century with regard to the drop out rate. Although no figures exist, it seems that a similar problem affected attendances at the Sunderland Technical College, as the Principal in the Prospectus of Evening Classes for the session 1902-3 noted that there was

58. See Transactions of the North East Coast Institution of Engineers and Shipbuilders Vol. 32. p.200. (1915-16).
Dr. G. Hunter & H. Thompson were members of the Institution.

'no lack of eagerness...in beginning studies, but a sad lack of perseverance in continuing.' (59)

He believed that there were two reasons for this; the first was an intellectual one, for many were ignorant of the fact that very little progress could be made unless preliminary and 'somewhat dry sciences' were seriously studied before attempting 'the bread and butter subjects' (60) This situation had been discussed in the Transactions of the North East Coast Institution, and Robertson in his article comments that

'Most boys left school before they were fifteen with practically no education in science or mathematics beyond simple arithmetic. Often one or two years were wasted before boys were accepted into apprenticeship, allowing them to forget what little they had learned. This was a national problem'. (61)

As Mavor and others observed, what was really needed was an improved system of secondary education, as a preliminary to higher technical education. Earlier in the century, a similar problem had afflicted the mechanics' institutes, where many workers stopped attending the scientific lectures because they found them hard to comprehend as their education was inadequate.

The second reason for students giving up their studies was a moral one, for the principal of Sunderland Technical College believed that those who gave up a course were lacking in

'moral strength...imagination and... confidence in...(their) abilities' (62)

59. Sunderland Technical College Prospectus of Evening Classes 1902-3. p.16.

60. ibid.

61. P.L. Robertson. Technical Education in the British Ship-building and Marine Engineering Industries, 1863-1914. Economic History Review. vol. 27. 1974. p.228.

62. Sunderland Technical College Prospectus op.cit. p.17.

At least one member of the North East Coast Institution of Engineers and Shipbuilders would have agreed, for in 1903-4, Sir William White thought that evening classes were morally uplifting, as they stopped young men roaming the streets. Probably, many of them were too tired to engage in any social activity, for

'the apprentice worked in the yards from 6 a.m. to 5 p.m...the road for naval architects and engineers (was) more a test of endurance than of brilliance. Over the years numerous complaints were registered on the impracticality of expecting boys who rose at 5 a.m. to study until 9.30 or 10 p.m., and some firms did shorten the hours for students. One or two firms on the Clyde, for instance, allowed apprentices to come in later on mornings following classes, but the fact that the complaints persisted showed that little was done' (63)

One local yard did follow the Clyde example, for the Neptune Engineering works allowed those apprentices who attended evening classes to start work at 9 a.m., not 6 a.m., on the following morning. Another yard in Walker encouraged its apprentices to attend by paying them a bonus if they passed the examinations. However, the feeling slowly grew in the early years of this century that something more would have to be done to encourage the apprentices to attend, by making evening classes a compulsory element in the apprenticeship or by holding such classes during the day in the firms' time.

Some saw evening classes as a means of career mobility and social improvement, but there were also benefits for society, as

63. Robertson, op.cit. pp. 228-9.

'the moral effect on the boys who put in his 6 to 5 day's work, spent three nights at classes and did a little homework was beneficial...for it discouraged vandalism promoted moral strength and broadened a man's outlook as well as giving him a better grasp of his job.' (64)

Great store seems to have been placed on the homework exercises, especially at the Marine School, South Shields, and any shortcomings in the examination results could be blamed on a lack of attention to it. In his report given on 3 August 1899, Flagg observed that

'the examination results were not so satisfactory...as students do not appear to study well at home' (65)

Flagg seemed to be lacking in feeling for the long hours which the apprentices worked and the fact that the conditions in many homes were not conducive to serious study. The same problems had affected classes organised for mill workers in Yorkshire and no doubt, other workers elsewhere. Some, such as A. Harrison of the North East Coast Institution (66) would probably have agreed with the sentiments expressed by Flagg in his report, for he believed homework to be beneficial, but others such as LAVOR had argued for day classes on the grounds that

'a very great deal of time must be spent in homework, and no arrangement will obviate the need for burning the midnight oil by those who would acquire a thorough knowledge...That homework may be done satisfactorily, every evening' in the week must be occupied. This brings us to one of two conclusions *viz.* either that the classes... be taught during the day or during some afternoon' (67)

64. ibid. p.229.

65. Governors' Minute Book, 1891-1907. 3 August 1899.

66. See Transactions of the North East Coast Institution of Engineers and Shipbuilders Vol.21. 1918-c. p.250.

67. ibid. Vol.3. 1886-7. p.170.

The fact that the system of workshop and evening classes was not successful was confirmed when some of the marine engineers first assumed a watch for they were often very ignorant.

J. Fothergill noted that

'the majority of such junior engineers had little or no knowledge of the general arrangements of the mechanics or of the work required to keep them in good working order' (68)

It was quite clear that something would have to be done, and this resulted in Jage's suggestion of a third class certificate. This idea was generally rejected on the grounds that it would be better to extend the period of sea service required for a second class certificate.

During the final years of the nineteenth century, there seems to have been a national decline in the numbers attending evening classes, which affected not only the engineering courses, but other subjects as well, for Klagg noted in one of his Marine School reports that there were

'few candidates...for navigation and nautical astronomy in the Science and Art examinations' (69)

The decline was partly due to the lack of interest shown by the owners of the shipyards and engineering works, and the trade unions. Volume 16 of the Transactions of the North East Coast Institution of Engineers and Shipbuilders contains an appeal, made by Mr. James, (70) for the greater involvement by both groups in the education of apprentices. It seems that

68. ibid. Vol.15. 1898-9. p.96.

69. Governors' Minute Book, 1891-1907. 3 August 1895.

70. See Transactions of the North East Coast Institution of Engineers and Shipbuilders Vol.16. 1899-1900. p.262.

throughout most of the nineteenth century, the majority of employers had remained disinterested in, or hostile to, the education of their employees. The same attitudes had also been encountered by the East Lancashire Union of evening schools and in Leeds, so the problem was not just a local one. What was perhaps needed was a re-education of the employers so that they would understand the benefits to be gained by employing educated workers. If this did not succeed, then, perhaps, the unions could encourage their members to become interested.

Only one local union seems to have tried to educate its members, and that was the Marine Engineers Union formed in South Shields in 1887. It aimed to raise the status of marine engineers by providing better facilities for education and bringing about changes in the requirements of service to gain a Board of Trade Certificate. It was not until October 1887, that advertisements appeared in the Shields Gazette for the union's winter course of lectures. These lectures seem to have been practical in nature, for one by A. Froud concerned breakdowns at sea and how to repair them, while another was given by W. Thorn (71) on the slide valve. On the 4 October 1889, another local proprietary school owner, W. B. Thompson (72) gave a talk on the economy of the compound and triple engines. Both were invited back to speak to the members in subsequent years, and in 1892, Thorn gave a talk on combustion and

71. See Chapter 5.

72. See Chapter 5.

evaporation, while ten years later, Thompson spoke again. Other speakers included G. A. Smith, whose talk about electricity on board ships was fully illustrated with diagrams and a dynamo. Lectures were also given on false levels in water gauges of steam engines, the status of the marine engineer, the rotative effect of single, double and triple expansion engines, combustion in marine boilers and boiler construction. The winter courses of lectures seem to have been offered for many years in the Marine Engineers' Institute at 8 King Street, commonly known as the Athole Hall. They seem to have continued until 1903 at least, and the union itself is listed in the local trade directories until the beginning of the Second World War, but by then it was probably more concerned with wages and conditions of service than education. These had been the pre-occupations of the majority of unions in the nineteenth century, and the most that they would do was preach the virtues of knowledge. Most unions did not undertake any educational provision themselves, and one of the first to do so was the Amalgamated Society of Carpenters and Joiners which organised classes in technical drawing and machine construction in 1868. The Marine Engineers Union's attempts to organise educational activities for its members can be interpreted as a form of self help, for as Professor Weighton of Newcastle observed at a meeting of the North East Coast Institution of Engineers and Shipbuilders in 1907-8, self discipline, self denial and self help were an essential aspect of character formation.

In the nineteenth century, self help was probably the most important element, for it was believed that all adult ..

education, even that undertaken under the guidance of an expert teacher, was essentially a process of self education. Sometimes, like minded men formed a mutual improvement society so that they could meet, and Harrison considers these to be one of the agencies of working class self help. (73)

Linked with character formation was respectability, which was the ideal for which engineers strived. Marine engineers had been concerned with their social status for many years, as they did not seem to be held in the same esteem as deck officers. One of their grievances was that engineering certificates did not permit them to take the examinations which would have enabled them to command a vessel, so they felt that they were in some way, inferior. The activities of the union, no doubt, did much to heal their feelings, but other innovations were also taking place with regards to some of the other members of the crew on board ship.

The Technical Education Committee of Northumberland and in particular, John Foster Spence, (74) were to play a leading role in making provision for the education of nautical cooks. The food on board ships had gained a certain notoriety (75) and in 1891, the London Shipmasters Society sent a circular to training ships recommending that their boys could be taught nautical cooking (76) as there was a need for good cooks on ships. The Nautical Magazine was in favour of the scheme and

73. See J.F.C. Harrison. Learning and Living, 1790-1900 Routledge and Regan Paul. 1961, p. 43-57.

74. See Appendix I.

75. See Chapter 1.

76. See Chapter 3.

in 1893, it published an article on the need for ships victuals to be inspected and the introduction of certificates of competency for sea cooks. Once again the whole question was left to local initiative and in the Northumberland Technical Education area, Miss Effie Bell seems to have been first employed to teach cookery at Walker during the 1892-3 session. Her course consisted of twelve demonstrations, with an average attendance of over twenty, and twelve lectures with an average attendance of four. The previous session had witnessed a Miss Burgess teaching cookery in Lynemouth and at the Sailors' Home, North Shields. Her course of ten demonstrations had been attended by thirty five men, but her contract does not seem to have been renewed, and Miss Bell seems to have taken over Miss Burgess' work."

Miss Bell, not only taught the seamen, but the boys from the Wellesley Training Ship and under her guidance they won prizes at exhibitions in London. (77) Her lectures took place during the day time as well as in the evening, and soon it was possible for her to teach courses of a more advanced standard. A small number of men took the examination at the end of twenty four lessons, but her classes were also affected by the problem of irregular attendance, for during the session 1899-1900, she taught 136 lessons with 69 regular attenders, only five of whom sat the examination with all of them passing. The Shields Daily News on 8 August 1898, contained a report which stated that only fourteen men out of 152 had passed the

77. See Chapter 3.

examination.

The fame of the school spread and the same newspaper was able to report that

'the school of nautical cookery is being far more thoroughly appreciated by shipowners and masters of ships. Ships' captains write from all over the world asking for certificated cooks' (78)

to be ready for them when they next visited the Tyne.

Havelock Wilson had in 1899 introduced a bill into Parliament which required all cooks on ships to hold certificates of competency from a nautical school. (79)

The North Shields school had at least one critic, for in April 1897, a teacher from Rutherford College, Newcastle, inspected Miss Bell's work and criticised her conduct of the lessons. The Technical Education Committee jumped to Miss Bell's defence by pointing out that the inspector had

'not the slightest knowledge or any experience of the teaching of sailors' (80)

The Committee felt that Miss Bell had been unfairly criticised, as it was known that there was some personal 'friction' and enmity between the teacher and the inspector, as Miss Bell held higher diplomas than the inspector. The Committee pointed out that Miss Bell was something of an expert on nautical cookery, for she had written, and delivered, papers on the subject. According to the Shields Daily News in 1896,

78. Shields Daily News, 3 August 1878.

79. See Chapter 4, and P.F. 1899.vi.158.

80. Northumberland Technical Education Committee Minutes, 7 March 1898.

she had also undertaken a seven week voyage to the Mediterranean on a vessel owned by Messrs. Knott and Co., so she could ascertain the difficulties of cooking at sea.(81) She seems to have undertaken another voyage in 1898 during her holidays. It is a pity that some of the proprietary school teachers, who had never been to sea, did not undertake similar voyages so that they could find out about life at sea.

In 1901, Mr. Spence and Miss Bell suggested the formation of a national association of cookery schools to ensure that there was a unified standard throughout the country. They wanted the instruction to include hygiene and a setting up of a national examination system. Two years later, the Nautical Magazine reported that the North Shields School was being assisted by the North of England Steamship Owners Association, as well as Northumberland County Council. Later, it seems that from 1904, the school was conducted under the auspices of the Shipping Federation.

During the nineteenth century, it is interesting to note that there were a number of attempts to break away from the usual routine of 'cram' and provide a wider prospective to the education of seamen. However, as far as the education of engineering apprentices was concerned, a new type of 'cram' came into existence, that for the Science and Art Department Examinations, so that their courses became a matter of endurance. Many owners realised that some further reform was necessary, and some steps in this direction were taken by the South Shields Marine School and Sunderland Technical College.

81. See Shields Daily News 25 July 1896.

Most of the interested parties were aware that if Britain was to keep up with her competitors, further reforms in education of apprentices would have to be carried out. It would also seem fair to conclude that it was mainly the later institutional schools which attempted curriculum innovation. Proprietary schools had to consider what their students required, and the majority of their students were only interested in gaining a pass as quickly as possible.

CHAPTER 8.

The Problems Remain.

As the nineteenth century progressed, a number of problems had arisen with regard to nautical education. The aim of this chapter is to consider how these problems were either resolved or ameliorated during the 1890s and in the twentieth century.

The provision of facilities in the north east ports for those men requiring instruction in navigation had contracted by 1903 to one Marine School at South Shields, a number of proprietary schools and evening classes at Sunderland Technical College. The private schools had been in decline from about 1881, and only a few were to open after that date. Those navigation schools which continued into the twentieth century experienced financial difficulties as they attracted fewer clients. Most seamen seemed to prefer to attend the institutionalised schools, which arguably concentrated a little less on 'cram' and paid more attention to general education.

Those proprietors who started schools in the last two decades of the nineteenth century seemed to concentrate on the education of marine engineers, as this was possibly an expanding business sector, for there were more steam propelled ships than ever before and they had to be crewed by properly qualified engineers. However, as the years passed, even the teachers of marine engineering seemed to find life

increasingly difficult because of competition from the institutionalised schools, which had begun to offer marine engineering courses. From 1901, the Sunderland Technical College was involved in this side of nautical education and two years later, the South Shields Marine School established a Marine Engineering Department. The institutionalised schools were better equipped than the proprietary schools, which could not afford to purchase the innovatory technology. Both the Sunderland Technical College and the South Shields Marine School were presented with models of ships and engines by local shipping firms and engineering works. It would seem reasonable then to argue that technical progress itself brought proprietary schools to an end and only one or two managed to exist upto the time of the Second World War. With only a few models or other pieces of equipment, all the proprietary schools could offer their clients was a thorough grounding in theory, which was culled from the many published guidebooks to the local marine board examinations.

The system of 'cramming' had first been used by nautical teachers to get seamen through the deck officers' examinations. After 1862, when engineering examinations were introduced by the Board of Trade, the same method of teaching was adopted by the proprietors of marine engineering academies. Such instruction was criticised by many of the witnesses who appeared before the Select Committee inquiring into Merchant Shipping in 1860 and the Royal Commission into the Loss of

Life at Sea, which reported in 1887. Generally, the feeling was that 'cramming' was not the same as education, for the former implied undigested teaching without proper understanding of the principles involved. Many writers, including James Bolam, called for a national system of technical instruction for mariners based on 'intelligent instruction'. (1)

If such suggestions were to be implemented, greater state intervention, in the form of finance and help in establishing state nautical colleges, would be necessary. Many other countries, including France and Russia, had state assisted nautical schools and William Allingham in the Nautical Magazine during the 1890s suggested that similar institutions should be established in Britain. (2) Claims that the Government and its agent, the Board of Trade, had done little to assist nautical education seem to be justified. For most of the nineteenth century, except for the period 1855 to 1863, the Government had left nautical education to private or charitable provision. J. Bolam in an article entitled 'A School of Navigation' (3) suggested that the provision of education for seamen was a national disgrace, for all that the Government had done was to establish a system of examinations which encouraged 'cramming' and low educational standards. In a paper given at the Shipmasters'

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1. N.M. LXV. 1896. p.310. See also N.M. LXXI 1902. pp.242-51.
 2. See N.M. LIX. 1890. pp.34-6; LX. 1891. pp.3-11; LXI 1892 pp.727-31; LXII. 1893 pp.123-132, and p.1077; LXIV 1895 pp.126-131; LXVII 1898. pp.152-60.
 3. Bolam, op.cit. pp.706-14.

Society in London in 1893, Allingham even went as far as claiming that the Government was only interested in the evening education of men employed in shore occupations and that the Science and Art Department Examinations had done little to improve the education of seamen. (4)

If a national system of nautical education were to be established not only would existing seamen have to be educated for the higher certificate examinations, but also those boys intending to embark on careers as deck officers or engineers. There had been attempts earlier in the nineteenth century to establish boys' departments at some of the institutionalised schools in the north east ports. (5) In the 1850s, the Newcastle Trinity House School and the Sunderland Board of Trade Navigation School both attempted to educate boys. The South Shields Marine School, first in 1874 and then from 1886, opened a boys' department which encountered the same problem as the two earlier schools; namely a difficulty in attracting or persuading boys to attend. The question to be answered, then, is why had a career at sea become so unpopular?

J. Gillie in an article published in the Shields Gazette on 4 April 1899 suggested one reason; that jobs on shore were better paid than jobs at sea, and linked with this was the fact that when a boy passed the Board of Trade Examination to become a master, the wages he would

4. See W. Allingham: Mercantile Marine Education. Paper 28. 19 October 1893. Shipmasters' Society. London.

5. See Chapter 2.

subsequently receive were depressed as there was a glut of certificated officers. Owners had plenty of candidates from whom they could officer a ship, so naturally they always selected the cheapest. There were no nationally agreed pay scales, so each officer had to make his own agreement with the shipping company and often foreigners could be employed for less pay than their British counterparts. There was, perhaps, also some truth in the allegation that whilst seamen's pay had remained static, remunerations in shore employments had increased.

A second reason why few boys wanted to go to sea was probably, that the realities of life at sea had become widely known. Novels, newspaper reports and parliamentary papers had all revealed how dangerous a sea life was and how badly boys were treated by some officers and mariners. The romantic writings and the oral tradition of brave and daring deeds had been exposed as lies or exaggerations. Furthermore, it could be argued that the romance of the sea had diminished with the replacement of sail by steam. Very few boys would have found the dirty steamers as inspirational as the beauty of a ship under full sail.

Another and more important reason was that parents did not want their sons to go to sea. Many parents were, no doubt, worried by some of the stories they had heard about life on board ship. Poor food and accommodation were still common at the end of the nineteenth century, even though there

had been legislation which had aimed to bring about an improvement. Worst of all, many parents must have wondered what sort of company their off-spring were keeping in the fore-castle. Respectable, caring parents did not want their sons mixing with poorly educated seamen and boys from industrial training schools, reformatories and workhouses. The fear was that honest boys would be tainted and corrupted by such company. Such anxieties were attributable to the fact that many captains and officers did not supervise the boys or apprentices under their care.

Connected with this was the possibility that many masters and officers did not train the apprentices on their vessels. Even "premium" apprentices were not given much instruction, which resulted in many parents believing that the payment of the premium was a complete waste of money. F. T. Bullen in his book Men of the Merchant Service observed that

'It has long been the current remark concerning sea apprenticeship that it is the only apprenticeship in the world where a lad is supposed to learn his profession without being taught, as if in some mysterious way he could absorb practical knowledge without ever having an opportunity to do any of those things he is to be examined in presently' (6)

Many masters viewed apprentices as cheap labour or lackeys to complement their short-handed crews, whilst many parents felt that apprentices learnt only how to polish, paint or grease.

6. F. T. Bullen. Men of the Merchant Service 1900, p.242.

'Respectable people, who have spent money on their son's education, do not pay a heavy premium, and apprentice him to a ship with the object of his becoming an able seaman. They expect him to be an officer' (7)

If a boy learnt little or nothing during his apprenticeship, it is also more than likely that he forgot much of what he had been taught in school before signing his indenture. Thus a parent's expenditure on school fees would be wasted and this, no doubt, partly explains parental reluctance to send their children to a nautical school. The notion that it was best to try the sea first and school after persisted throughout the nineteenth century and into the twentieth. Further weight was given to the idea when some old mariners expressed similar sentiments, and expressed doubts as to the value of the instruction given in nautical schools. They argued that many shore schools only taught the theory without any of the practical skills necessary to command or navigate a ship. Some of the evidence presented above (8) shows that some of the schools did try to give a practical bias to their instructions, but it was still felt that the best place to learn seamanship and navigation was on board a ship, preferably a sailing ship. An apprenticeship served under sail was thought to be character building, even though by the end of the nineteenth century sail had been superseded by steam.

7. ibid. p.224.

8. See Chapter 2.

Linked with the view that the education provided in the boys' departments of nautical schools was too theoretical was the idea that the curriculum was also too narrow. It could even be argued that all the boys did was 'cram' for the Science and Art Department Examinations. What many parents wanted was a wider curriculum, so they encouraged their sons to attend the local higher grade schools. In the 1890s, such schools offered a wider range of subjects and allowed their pupils to consider a variety of occupations. Perhaps some parents believed that if they sent a son to a nautical school, they were restricting his future occupation to being either a deck officer or a marine engineer. Furthermore, if a boy went to a nautical school from the age of eleven or twelve for three years and then signed an indenture of apprenticeship, which would last another three years, it would be too late to train for another occupation if he discovered he did not like life at sea.

The very existence of higher grade schools, which were established in a number of towns, including Gateshead, Sunderland and South Shields between 1885 and 1890, cast doubt on the need for specialised nautical schools. The Bryce Commission noted there was a bias towards a curriculum of a vocational or semi-vocational type in the higher grade schools, and generally the concentration on scientific subjects was due in part to their dependence for finance upon the grants of the Science and Art Department. By 1890, many children were attending such schools for a six years' course of instruction; at the end of which they were old enough for an

apprenticeship. The Bryce Commission were aware of this fact and recognised that

'the growth of special and technical instruction in schools has created a branch of secondary education while not a substitute for apprenticeship is yet... a preparation for it.!(9)

The term 'secondary' in this case was taken to mean any teaching which did not come within the requirements of the elementary school code, for

'secondary education is technical, (as) it teaches the boy to apply the principles he is learning, so as to learn the principles by applying them, so as to use the instruments he is being made to know' (10)

The higher grade elementary schools and the Marine School Boys' Department both had such an aim and were to be competitors. The Marine School Governors were very much aware of this, so they wrote to some of the local school board headmasters suggesting that if they had any boys interested in going to sea, they should persuade them to attend the Marine School. However, the response was far from favourable and the headmasters claimed that few boys evinced any desire to adopt the seafaring professions. It would seem that the Governors were right when they concluded that the days of voluntary provision were numbered owing to increased state activity.

9. Royal Commission on Secondary Education (Bryce Commission) 1895. xliiii. c7862. Vol.I. p.133.

10. ibid. p.136.

Not only were the higher grade schools offering scientific subjects, but many of the elementary schools were including a wider range of subjects in their curriculum as the Revised Code was relaxed. Soon 'specific' and class subjects were added and as early as 1882, Clement K. Markham realized that other reforms could be made. In his report on navigation schools, included in the Proceedings of the Royal Geographical Society, he suggested that

'the teaching (of nautical subjects) which is so much needed might be introduced into many existing schools especially in our larger seaports. A navigation class might be drafted on to the present system of education and with a little encouragement, a special interest in navigation and nautical astronomy might be created and fostered among a larger number of boys in such schools' (11)

Markham's ideas were later adopted by Franklin Fox, who wrote to the Nautical Magazine in 1892 advocating that a class ought to be established in each board school for boys intending to go to sea. Such pupils were to receive instruction in rudimentary nautical matters, including nautical astronomy, use of the quadrant, the compass, the log, the lead, rigging and sailwork, as well as attending the ordinary school lessons. It was hoped that such classes would place the sea service upon a higher level and benefit the state as well, for the country would be less dependent on foreigners to man

11. C. R. Markham: 'On the Instruction at present supplied in this country in Practical Astronomy, Navigation...' Proceedings of the Royal Geographical Society New Series. Vol. IV. 1882. Stanford p.311.

mercantile vessels. Lieutenant D. Wilson-Barker, R.N. had written an article expressing similar views in the same magazine a year earlier, but he emphasized that the school work should be based on reasoning, not memory. He believed that a thorough education during the early years of life was a sufficient preparation for seafaring, especially if it involved a mixture of practical and theoretical work.

Luckily for the South Shields Marine School Boys' Department, these suggestions were not acted upon, for if they had been, the Governors would have felt even more keenly that their efforts to educate boys were superfluous as even fewer boys would have attended. However, the fact that nothing was done to improve nautical education is of little credit to either the Government or other interested parties, such as the shipowners. The need for changes in the provision of nautical education for boys and adults was only slowly realised and many schemes were suggested.

An article by William Caius Crutchley in the Nautical Magazine for 1891 developed Markham's and Fox's arguments, for he suggested that once the boys had received some education in the board schools, they should be sent to a state aided depot. Shipmasters would have to apply for an apprentice to the depot and have their credentials checked by the Registrar General for Seamen to ensure that they would train the boy thoroughly.

Some of the criticisms of the apprenticeship system have already been noted, and they prompted many writers to urge reforms. Most writers thought that captains should fulfil their educational duties towards their apprentices, and 'An Old Sailor' who wrote in the Nautical Magazine for 1894, suggested that an apprentice should be at least sixteen years of age and be willing to serve for four years on a sailing vessel. He also thought that the two years after leaving school ought to be spent on a special training ship.

Some writers, including the writer known only by his initials 'F.W.G.', believed that it was wrong for the whole of the apprenticeship to be conducted on the same vessel, and in an article published in the Nautical Magazine for 1902, he argued that part of the apprenticeship should be spent on a steamer. After so serving, an apprentice would be awarded a certificate which was applicable to any class of vessel, no matter how it was propelled. He also suggested that some of the owners should form a company which would buy and operate a training ship, so that a large number of apprentices could go on voyages lasting for a year or even longer. The apprentices could be charged a premium and if cargoes were carried, this would offset the costs incurred. The proposed scheme sounds remarkably like the one advocated by Brassey and adopted by Devitt and Moore. However, their system proved expensive to the parents, so it is possible that 'F.W.G' would have been in favour of a state assisted vessel. In an

anonymous article published in the Nautical Magazine in 1890(12) the unknown author drew attention to the fact that the United States of America had organised a state aided system of training ships in the 1870s and he was in favour of Britain establishing a similar system. Each ship would have to employ schoolmasters and seamanship instructors, and on some of the American ships, marine engineering was also taught.

Not all the seamen who lived in the closing years of the nineteenth century and the early years of the twentieth century were in favour of such suggestions. Runciman in his Windjammers and Sea Tramps, published in 1905, argued for the retention of the apprenticeship system, with some modifications, for he believed that the boys should be trained on board the vessels which, in time, they would command or officer. He was not in favour of subsidized training vessels or a national tax to aid training or charging parents a premium. If his plan were adopted apprenticeships would be open to boys from financially poor, but respectable, homes. Such boys could be trained to be able-bodied seamen and those who showed a talent for commanding could save up enough money to pay the school and examination fees.

Runciman put his ideas into effect on his own ships and persuaded some of the other members of the Shipping Federation to follow his lead. However, he was not without his critics, and Bullen in his book Men of the Merchant Service claimed

12. See N.M. L.N. 1902. pp. 76-8.

that if everyone were to implement such a scheme, only a few boys would be able to rise to command. Basically, Bullen was in favour of Runciman's scheme, but he wanted each vessel to carry a few superior premium paying apprentices, who would be excused some of the dirtier jobs on board a ship, so that they could be taught navigation, nautical astronomy, mathematics and mast work. In time, Bullen believed that these boys would become officers and commanders.

An idea of what another writer proposed can be obtained from an article entitled 'The Training of Apprentices', which was published in the Nautical Magazine for 1904 (13). The author, J. M. Reynolds, argued that the term 'the duties of a seaman' was vague and needed defining, for there was a difference between educating boys to be officers and training them to be seamen. One can discern in this a need to divide apprentices into two groups, but Reynolds believed that the education of an officer had to begin with the same subjects as those taught to the apprentices who would remain crewmen.

Reynolds wrote that

'during his (the apprentice's) first voyage, he should be made thoroughly conversant with the ordinary routine by which a ship is kept clean, he should be taught how to knot and splice, and in fine weather should be permitted to go to the wheel. In the natural course of events he will become adept at such work as loosing, reefing, and furling sails. This may be termed the groundwork and on his second voyage he should be quite capable of taking his turn at the wheel and lookout, besides being able to undertake most of the skilled

labour that an A.B. would be expected to perform. He should then be able to work up the ship's position by dead reckoning and also by observation, the calculations of which, theoretically, he would be already familiar with, on account of his previous...experience. By the end of his last voyage, should have been so taught that he can take charge of a watch, with its accompanying responsibilities entailed by manoeuvring of a ship under various conditions, without any degree of nervousness or lack of self confidence.' (14)

It seems that Keynolds expected apprentices to have received some sort of preliminary education, either in a school or on a training ship, such as the 'Worcester' or the 'Conway'. He also thought it desirable for apprentices to be trained in the use of the

'countless instruments and appliances connected with the navigation of a modern steamer.' (15)

The Government was also prompted into action, as it was concerned by the decline in the number of boys signing indentures and the greater use of foreigners to man our ships. In 1898, the Merchant Shipping (Mercantile Marine Fund) Act, 61 and 62 Vict. cap 14. introduced a grant which was payable to owners who carried a certain number of apprentices in proportion to the tonnage of their vessels. The boys had to be British, medically fit and to be aged between fifteen and nineteen years old. The period of apprenticeship was to be three years, and they were to be educated in the arts of modern seamanship. The subsidy was to continue until March 1905 and all the boys so trained had to enrol in the Royal Naval Reserve.

14. ibid. pp. 312-13.

15. ibid.

The scheme did not prove successful, possibly, because it was voluntary. However, a return to compulsory apprenticeship would not have been acceptable, for the same reasons that it had to be abandoned in 1849; namely the owners did not like it because of the costs involved. As the years passed, owners found that there was an anomaly in the grant scheme, for it seemed that long voyage sailing vessels, which visited the United Kingdom only once or twice a year, were at a financial disadvantage when compared with a short voyage steamer. C. McL. McHardy in a pamphlet published for the Navy League expanded this criticism further, for he wrote that

'The payment for training boys to be sailors may vary from about 2s. per annum in some ships to about £11 per annum in other ships, and would be least for the owners of sailing ships, which is the class of vessel most suitable for the purpose. Take two steam ships of about 1000 tons, both making the same voyages; one of them 999 tons, the other 1000 tons. They would each pay about £69 in Light Dues; the maximum for the owner of one might be £4. 11s. 8d, and of the other £6. 17s. 4d. per annum for each boy sailor; or if one of these vessels were a sailing ship making long voyages and returning home about once a year, the maximum for the owner might amount to... 12s. 6d. per annum for each boy sailor, though this class of vessel would probably be the best for training the lads. Thus it will be seen that the smaller sailing ships trading with distant countries and visiting British ports only once or twice a year can, if they carry boys, earn only a paltry grant per annum if compared with that which large ships ...visiting British ports several times a year might earn'. (15a)

15a. C.McL. McHardy. British Seamen, Boy Seamen and Light Dues Navy League. 1899. pp.32-3.

The scheme hoped to train about 16,000 boys at a cost of £6 200, but the owners found it hard to mix commerce and patriotism. The boys did not like it either, and 'F.W.G.', writing in the Nautical Magazine in 1902, thought that more might enrol if they did not have to join the Royal Navy Reserve. The Departmental Committee on the Training of British Boy Seamen, chaired by David Lloyd George, found that only 302 boys had enrolled in the year ending 31 March 1900. This number gradually increased until during the year ending 31 March 1905, 1121 boys signed on, but with such small numbers the scheme would have made only a small impact on the employment of foreigners in the British Mercantile Marine. (16)

In its evidence to the Committee, the Admiralty suggested an alternative scheme, but, as the owners opposed it, the proposal was withdrawn. The Admiralty's plan included a grant of £10 if an apprentice was carried, but the Committee thought that the sum of £25 would be more acceptable. It seems then that the answer was to make it worth the owners' while to employ British Boys. The Navy League, however, argued that if masters were to receive a payment for each boy they trained a rapid improvement would result or if this were not acceptable, all boys should be placed for a time on a special training ship and any premium paid by the state. However, not everyone was happy with proposals to establish more training ships, for such institutions had existed in various forms for many years and there was one at the mouth of the Lyne, called

16. Figures from Report of the Departmental Committee on the Training of British Boy Seamen 1907. lxxv. 167 (Cd. 3722). p. 17.

the 'Wellesley' (17) Over the years, the vessels had been increasingly criticised and during the 1890s, the 'Wellesley' had been the subject of an official inquiry over the use of unorthodox punishments and the lack of supervision over the inmates. Generally, the 1896 Departmental Committee on Reformatory and Industrial Schools was of the opinion that

'The school ships are very well commanded... We cannot doubt that they provide an excellent training for boys who mean to go to sea... (but) we doubt whether...a school ship is really superior, if indeed equal to a good land school, life on board ship is in the long run more confined and more monotonous... As an industrial school, a ship has these disadvantages - it has no matron, they receive no methodical trade instruction and it is a more expensive institution. But if this be so, only those who are willing to go to sea should be sent to a ship' (18)

The Committee was also in favour of closer links between land schools and training ships, so that the boys spent only part of their period of custody on board the vessel.

The tide of opinion gradually turned against the industrial training ships and it was a known fact that shipowners were unwilling to employ their inmates. Owners claimed that such boys had been trained in dated techniques and manoeuvres not used in the merchant service. In 1903, an article appeared in the Nautical Magazine which claimed that

17. See Chapter 3.

18. Departmental Committee on Reformatory and Industrial Schools Report. 1896. xlv.1. C8204 para 226. p.116.

'All round our coasts, the training ships are either languishing for want of funds or lads. If they fulfil the designated purpose by all means foster them; if they are not moving with the times, abolish them, but do not waste money and energy on similar new institutions until those already in existence have been...mended or ended.' (19)

Some, such as Mr. Rose, a London Magistrate, even thought that herding boys onto a training vessel was a new social evil, as many such boys were not bound to become respectable seamen.

By the time that the 1913 Department Committee on Reformatory and Industrial Schools sat, there was only one reformatory and three industrial schools housed on board ships. The Committee concluded that

'it is now generally recognised that ships do not provide suitable premises for schools and since 1896, five ship schools have closed or transferred to land premises' (20)

The 'Wellesley' was not to transfer to land premises until 1914 when the vessel caught fire. Generally, training ships had fallen into disfavour because they lacked playgrounds, provided an inferior education and were unhealthy. There was also greater difficulty in supervising the inmates on board a ship, a problem which the 'Wellesley' had experienced. (21)
The Committee was basically in favour of land based schools

19. N.M. LXVII 1903. p.768.

20. Report of the Departmental Committee on Reformatory and Industrial Schools- 1913. xxxix. Cd.6838. p.42.

21. See Chapter 3.

situated near the sea, with a seagoing tender attached.

However, it conceded that as

'it would not be possible to abolish ship schools at once, we recommend that as suitable opportunities occur, they should be closed and the inmates transferred to land schools.' (22)

The land based 'Wellesley' did acquire a tender this century, but it also extended its curriculum to educate boys to become sea cooks. Like other industrial schools, the 'Wellesley' had found it difficult to find its boys' berths as apprentices or ordinary seamen, so it seems that the 'Wellesley' had to adjust to changing circumstances if it were to survive. Later, the institution became what is known as an approved school, offering a training in a variety of subjects.

The question still remains as to how successful were the industrial training ships. If one considers them as an answer to the influx of foreign seamen into the British Mercantile Marine, then they must be considered a failure. Many of the boys committed to them did not want to go to sea and some even lacked the physique or strength for a life on board ship. Those who did go, often found that they were inadequately prepared. On the other hand, if the ships were considered as saving some boys from a life of poverty or petty crime, then they were a partial success, but by themselves, they would never be able to solve many of the problems connected with deprivation in Victorian society or the need to man the mercantile marine.

22. Report of the Departmental Committee op.cit. 1913. xxxix.Cdb838. p.44.

To solve this latter problem, the sea life had to be made more attractive to boys and a proper system of training at all levels was one answer. One way to achieve this could have been the establishment of a nautical college, which was suggested in the Nautical Magazine in 1891 (23). The anonymous author pointed out that many captains and officers desired higher education, as they felt that their status had been diminished in the eyes of the general public. The proposed college would provide men for the mercantile marine and in times of war these could be drawn upon to man the Royal Navy. Finance for the college would be provided by the patriotic efforts of private individuals and state grants. Furthermore, all officers would have to hold a college certificate before they could serve on a ship or study for one of the higher Board of Trade Examinations.

Letters of support appeared in the Nautical Magazine and the idea can be connected with a proposal of Duncan Forbes, which appeared in the same magazine in 1891.(24) He suggested that there should be a central college with branches in every port. One objection to such proposals was that seamen did not spend enough time on shore to follow a properly organised course of study. To overcome this, there would have to be established a stateorganised system of scholarships whereby officers could study on full pay or the shipowners would have to pay their employees whilst in college. This latter notion

23. See N.M. LX 1891. pp.3-4.

24. ibid. p.155.

implied that there would have to be a change in the attitude of the shipowners, who had displayed little or no interest in nautical education.

C. R. Markham also wrote in support of a college (25), but others were not so favourably disposed. William Crutchley's article, published in the Nautical Magazine for 1892, expressed the belief that such colleges were

'a little before their time' (26)

and what really was required was a thorough education during a seaman's early career. He thought that the seamen working in the 1890s should be left to get their education as best they could, and a new scheme introduced with the generation about to start their careers.

Further appeals for change appeared in the Nautical Magazine in 1898 (27), and in 1902 (28). Allingham once again suggested a system of affiliated nautical colleges, which would follow a similar curriculum, so that if a seaman's studies were interrupted by a voyage he could easily resume them when he returned to a British port. Allingham did have one reservation about colleges for

25. ibid. pp. 297 - 301.

26. ibid. LXI. 1892. p. 891.

27. See N.M. LXVII. 1898. pp. 793-6.

28. See N.M. LXXI. 1902. pp. 242 - 51.

'although highly commended from a lofty theoretical point of view, I am somewhat inclined to disbelieve their efficiency when regarded from a practical plane. There is a great danger of ...smatterings being scattered broadcast among our merchant marine officers by mistaken shore folk, who are utterly ignorant of life on the ocean wave.' (29)

No doubt, he would have been in favour of employing well educated deck officers as teachers in any proposed college.

The situation with regard to the nautical education of officers seems to have basically remained unchanged until the end of the 1920s. In 1912, a further article appeared in the Nautical Magazine, calling for a rational system of education for deck officers and engineers. The article drew attention to the fact that

'instruction is an organic part of their examinational system.' (30)

and that the Government had organised the system, but had not been involved in providing schools to any extent. In many countries, including France, candidates were led up to

'the requirements through successive stages of organised study. Foreign nations realise that sound instruction in nautical subjects is just as necessary to turn out good navigators as technical education in their respective subjects is essential to the making of good engineers, chemists or cooks. They recognise that instruction is of more value to the profession in general than examination. But the inclusion of satisfactory completion of recognised courses of study in the qualifying conditions for examination is only following out the practice adopted by all institutions which have the privilege of conferring the practical rights

29. W. Allingham. Duties of Officers and Seamen: Paper 21. Shipmasters' Society. London. 4th Session. 1892. p.6.

30. N.M. LXXVIII. 1912. p.149.

of any profession... Engineers(mechanical, electrical, civil and mining), naval architects...must all have undergone a recognised course of technical instruction' (31)

Moves towards such a situation can, perhaps, be discerned in the evening courses for engineering apprentices held at the Sunderland Technical College from 1902 (32) and later at the Marine School from 1908. The Admiralty also seems to have adopted a similar system for the training of Royal Navy officers. A cadet had to study satisfactorily for several years a number of nautical subjects before going to sit the examination in navigation. The question then was

'Why does the Admiralty insist on such a rigorous training in purely technical subjects for the navigators of His Majesty's ships? Simply because it is absolutely necessary for the intelligent application of the science of navigation.'(33)

The information imparted to the Navy cadets was upto date and the author of the article also argued that the men employed in the mercantile marine required a similar training. The navigation course proposed in the Nautical Magazine of 1912 was to include mathematics, navigation, astronomy, marine surveying, law, magnetism, compass adjustment, ocean meteorology and seamanship. Furthermore, the time spent in school was to be stipulated and made part of the examination requirements.

The same article also mentions that some steps had been

31. ibid.

32. See Chapter 7.

33. N.M. LXXVIII. 1912. op.cit. p.150.

taken to establish a centrally controlled system of nautical schools. A number of them had been set up in London, Plymouth, Bristol, Leith, Liverpool, South Shields, Aberdeen, Dundee, Glasgow and Greenock with the assistance of the Education Department. Most of the schools were departments in technical colleges and, therefore, could provide expert tuition in navigation and marine engineering. The schools were organised by the local education authorities to

'meet the ever growing demands for technical instruction made by the seafaring community in their respective districts. Each school has its own clearly defined course of study, so arranged as to lead the students through successive stages to the culmination of his studies' (34)

If all schools were to be centrally recognised by the Education Department or the Board of Trade, it would mean that the proprietary schools would play little or no part in the proposed rational system.

It is possible to discern in the suggestions above that there was a growing feeling that the Government, and possibly the shipowners, needed to be involved more. On behalf of the owners, the Shipping Federation took its first tentative steps into the field of nautical education in 1904, when it became involved in pre-sea training courses. However, it was not until 1918 that they opened a school at Gravesend when there was a great need to replace those men who had been killed in the First World War. It was also suggested

34. ibid. p.152.

that the state should provide a free course of training for seafarers and further proposals were made about pre-sea training in 1919, but at first they had little or no impact. It was not until the 1920s and 1930s that such courses gained a wider acceptance.

In 1927, the shipowners established a Committee to consider training, and some seven years later it recommended a more thorough education in mathematics and the sciences underlying the art of navigation. It also suggested the establishment of a central training board to ensure that all nautical schools had a common curriculum and that the standards required to pass the examinations should be raised. As early as 1890, many writers and seamen had believed that the British system promoted 'rule of thumb' methods and that the thoroughness of our examinations lagged behind the tests given by foreign countries to their mercantile mariners. The table given below seems to support their views:

TABLE XVII.
Requirements for Masters and Mates Certificates in various countries

	France	Holland	Belgium	Germany	England
Algebra	Yes	Yes	Yes	Yes	No
Geometry	"	"	"	"	"
Trigonometry	"	"	"	"	"
Mechanics	"	No	"	"	"
Physics	"	Yes	"	"	"
Steam	"	"	"	"	"
Languages	"	"	"	"	"

TABLE XVII. (contd)

	France	Holland	Belgium	Germany	England
Winds & Currents	Yes	Yes	Yes	Yes	Yes
Navigation	"	"	"	"	"
Nautical Astronomy	"	"	"	"	"
Surveying	"	"	"	"	No
Instruments	"	"	"	"	Yes
Observations	"	"	"	"	"

Source: N.M. LX. 1891. p.6. Also Paper 23 of the Shipmaster's Society, London. Appendix A. December 1892. p.32.

Even with the introduction of new subjects in 1898 (35), the feeling persisted that we were still trailing behind our foreign competitors. The article 'Wanted, a Rational System', published in 1912 in the Nautical Magazine, commented that

'We cannot but be impressed with the fact that the standard of professional knowledge demanded from (continental) candidates for their certificates of competency is much in advance of what is required from the officers of our own mercantile marine' (36)

The author also noted that the Board of Trade had continued to raise standards in the twentieth century, but this was only fair as there had been an advance in educational standards generally. 'Cramming' could no longer ensure success in the certificate of competency examination and the route to a pass lay in intelligent study. However, few seamen studying for their certificates realised this and saw little value in attending higher courses, such as the diploma course at Liverpool Nautical College.

35. See Chapter 4.

36. N.M. LXXXVIII. 1912. op.cit. p.149.

From 1918, ship's construction and plane trigonometry were introduced into the second mate's test, and right-angled spherical trigonometry, meteorology and ship's construction were included in the requirements for a first mate's certificate. Masters were also required to have a knowledge of stability and a system of marks was finally introduced into all the examinations. The result of these alterations was that fewer men gained certificates and caused further fears over the problem of manning.

Some ten years later, the Government set up a Departmental Committee to consider the question of examinations for mariners and in its report it recommended the abolition of the only mate's certificate, the introduction of an engineering paper into the masters' examination and changes to the examination syllabus. The major changes involved the replacement of some of the oral tests by written papers and a greater emphasis was placed on sea experience. Candidates were to be encouraged to study whilst at sea, and the correspondence element in courses was to become increasingly important as the twentieth century progressed. All training was to be carried out on modern vessels, as a training under sail was no longer deemed to be appropriate. The Committee's recommendations were to come into effect from August 1931, and further changes, including greater emphasis on residential pre-sea training courses, were introduced after the Second World War.

With greater emphasis on training and examinations, one cannot help but wonder whether the objectives had been achieved: greater safety at sea in terms of fewer lives and vessels lost. The question, then, is whether the relationship between safety and education is a simple one or whether other factors play a part in safe shipping.

It would seem that safety at sea is dependent on many factors and the interacting relationship is a very complex one. When the examinations were first introduced voluntarily in 1837 in Shields and Sunderland, and later nationally in 1845, few men came forward to be tested. (37) By 1850, it was obvious that some compulsory measure would have to be introduced, but the standards required to pass were much lower. The reasons for the introduction of the examinations included public awareness of the low educational attainments of seamen and fears over the increasing loss of lives and property. The effect of the use of examinations can be seen below and the sample of statistics is based on the losses which involved Sunderland ships or occurred in the Sunderland area.

37. See Chapter 4.

TABLE XVIII

Losses involving Sunderland ships or occurring in the
Sunderland area.

Year	Losses	Year	Losses	Year	Losses	Year	Losses
1840	48	1853	10	1866	22	1879	41
1841	30	1854	12	1867	47	1880	44
1842	18	1855	7	1868	30	1881	53
1843	31	1856	8	1869	45	1882	29
1844	13	1857	9	1870	48	1883	46
1845	34	1858	9	1871	50	1884	35
1846	25	1859	7	1872	31	1885	26
1847	21	1860	36	1873	18	1886	24
1848	18	1861	25	1874	31	1887	25
1849	32	1862	26	1875	41	1888	26
1850	19	1863	23	1876	52	1889	22
1851	6	1864	10	1877	49		
1852	21	1865	22	1878	33		

Source: Sunderland Public Library. Index to Shipwrecks,
1840 - 1889.

The figures fluctuate widely, so it seems safe to conclude that adverse weather conditions must have been an important factor in the number of vessels lost. It is interesting to note that the number of wrecks decreased after the introduction of national voluntary examinations in 1845 and there was an even greater reduction after compulsory examinations were

organised from 1 January 1851. However, the beneficial effect of the examinations seems to have been short lived, for there was an alarming deterioration after 1859. Such statistics prompt the question whether the same trend was discernible nationally. It is hard to assess the amelioration brought about by the national voluntary examinations, as there are no reliable statistics for the period before 1855. W. S. Lindsay in his History of Merchant Shipping and Ancient Commerce comments that

'a sort of record had been kept of (the) casualties, but it was not until...the duty devolved on the Board of Trade, that we have any reliable statistics' (38)

It would seem fair to conclude that the voluntary examinations must have brought about only a small improvement in the situation with regard to the numbers of wrecks and lives lost, as few mariners presented themselves for examination. Added weight can be given to such a conclusion, when one recalls that in 1851 it was found necessary to replace the voluntary tests by compulsory examinations. The effects of these tests can be seen in the table below.

Table XIX. National statistics concerning lives lost at sea and the number of wrecks.

Year.	No. of wrecks.	lives lost.	Year	No. of wrecks.	Lives lost.
1833	652	572	June) 1876-7)	1155	3475
1834	497	578	1881-2	1057	3612
1835	554	564	1885-6	717	2662
1856	837	485	1889-90	496	1297

38. W. S. Lindsay. History of Merchant Shipping and Ancient Commerce 1876. volume 3. pp. 504-5.

Table XIX. (contd.)

Year.	No. of wrecks.	lives lost.	Year.	No. of wrecks.	Lives lost.
1861	1171	537	1896	447	1541
1866	1438	896	1901-2	348	1185
1871	1224	626			

Sources: 1833-5. S.C.1836 xvii. 567. p.iii.

1856-1871. W.S.Linsay. History of Merchant Shipping and Ancient Commerce Volume 3. pp.505-6.

1871-1902. N.M. 1872 - 1903.

It is evident that the figures for 1856, 1861 and 1866 show an increase in the number of vessels wrecked. A downward trend only seems to have begun in the 1870s, when there was a great deal of publicity about the dangers of life at sea. As to the number of lives lost, no downward trend is discernible until the 1880s. The statistics giving the annual average loss of British ships up to 1879 show similar trends.

Table XX. The Average loss by wrecks of British ships.

Years.	Ships lost <u>per annum</u>	Lives lost <u>per annum.</u>
1816-8	401	763
1833-5	600	1000
1841-2	611	1000
1851-2	Not given	Not given
1860-2	1004	1316
1870-2	1095	2220
1877-June 1879	1052	2211

Source: Report of the Select Committee on Merchant Shipping. 1880, xi.305.

Once again the impact of the examinations on the number of losses seems to have been minimal, for there seems to have been a steady increase throughout the century up to 1879.

A third table leads one to the same conclusion:

Table XXI. Percentage of loss to ships on register.

Years.	Percentage of ships lost to ships on register	Percentage of lives lost to ships on register.
1816-9	1.87	3.56
1833-5	3.08	5.14
1841-2	2.66	4.35
1851-2	Not given	Not given
1860-1	2.58	3.38
1870-2	2.95	5.99
1877-9	2.72	5.71

Source: ibid.

There seems to have been a small decrease in 1860-1, but by 1870-1, another increase had occurred.

It seems safe then to comment that the establishment of examinations produced only a short lived beneficial effect. Further doubts are cast on the effect of education by figures published in the 1890s. Our rivals' examinations were considered to be more thorough than our own and to require a higher standard of education to pass, yet it appears British ships were conducted in a much safer manner. The table below shows the annual percentage loss of shipping for Britain and four of our rivals.

Table XXII. Annual Percentage Loss of Shipping.

Country	Year and Percentage Loss of vessels.			
	1896	1897	1898	1899
U.K.	2.8%	2.5%	2.4%	2.59%
France	3.9%	-	5.39%	-
Norway	6.4%	6.3%	7.36%	5.93%
Germany	-	3.3%	4.11%	-
U.S.A.	-	-	5.9%	-

Source: Nautical Magazine 1896-1900.

It seems, then, that examinations really required only a minimal amount of theoretical knowledge and it is often too easy to confuse theory and practice. The knowledge that a man may possess is not necessarily put into use and this definitely seems to have been the case with seamen. When the Royal Commission on the Loss of Life at Sea reported in 1887, it found that many accidents were due to negligence in keeping watch or carelessness in using the lead line. The Final Report commented that many vessels were lost

'due to the misconduct or neglect or error of judgment of the officers in charge of the ship and we are satisfied that in a large proportion of these cases the loss was due not to mere error of judgment, but to neglect by the master or officer of the most ordinary rules and precautions of navigation.' (39)

39. Final Report of the Royal Commission on the Loss of Life at Sea. 1887. xliii C5527. p.13.

It also came to the conclusion that the legislative enactments concerning the education of seamen and mercantile matters had

'not been successful and that all the measures adopted hitherto had little or no effect on the loss of life' (40)

what really was needed was some means of combatting negligence and carelessness. In this respect, the owners had their part to play with a more careful selection of officers, and the Government also by imposing a vigilant supervision of certificates of officers who had been found wanting. It seems that very few certificates were cancelled and this is shown in a Parliamentary return for 1899;

Table XXIII. Return showing...cancellation of certificates of masters, mates or engineers ordered by the Board of Trade from 1888 to 1898.

Year	Cancellation	Year	Cancellation	Year	Cancellation
1888	8	1892	5	1896	2
1889	5	1893	7	1897	7
1890	3	1894	8	1898	8
1891	2	1845	5		

Source: Return showing...cancellation of certificates of masters etc. 1899. Lxxxvii. 267. p.167.

Most of the cancellations were the result of criminal offences, such as physical assault, and only ten were due to drunkenness.

40. ibid. p.14.

Another means of combatting the problem could have been the adoption of the proposal that apprentices should keep a log book containing their calculations made during a voyage. This would have to be shown to the Board of Trade examiner when they went up for examination, and it could have been extended quite easily for those who entered for the higher examinations. At least one anonymous master who wrote in the Nautical Magazine was not in favour of examinations, for he preferred such a system of work books:

'All officers who have a certificate should be obliged to keep the ship's way and to keep a journal of the voyage. If this were done, owners would not require characters with the officers - the journals would show the character... In my opinion a chief mate's log book and cargo book...would give a practical man a better knowledge of his qualifications as an officer than half a dozen examinations, when fresh from the grinders'. (41)

The idea of continuous assessment was not widely accepted in the nineteenth century, and it has only gained favour during the period after the Second World War. Such an idea would have been alien to the majority of Victorians, for they placed a great deal of faith in the value of education and examinations as a means of testing competency. Blackmore in his book The British Mercantile Marine: A short historical review, published in 1898, argued that education could improve intellectual, as well as moral standards and that while the educational attainments of officers had improved a little the education of crewmen was deficient, if not more deficient than ever. The difficulty was that as there were insufficient men

available for sea employment, masters often had to sign men who had not been to sea before. Linked with this was the debate whether the standards of seamanship and nautical knowledge amongst some seamen were deteriorating. Much of the evidence in support of this view was presented to the Royal Commission of 1884, but it seems fair to comment that many of the witnesses were the victims of the illusion that things were always better in the past. Generally, the Commission did not agree with such arguments and concluded that although many crewmen did not have a thorough knowledge of some of the skills which had been required of their predecessors, they were competent. There had been many technical innovations, so it was only natural that some skills would no longer be required.

Education, then, was only one of the factors which led to improvements in the safe conduct of vessels. Other factors, such as the prohibition on the carrying of deck cargoes introduced in 1840, led to an even greater reduction in the number of lives and vessels lost and as soon as this measure was repealed in 1862, the numbers began to increase again. The change from sail to steam, better methods of ship construction and a more responsible attitude on the part of owners to insurance all played their parts, as did the laws which required the inspection of a ship before its departure, so as to ensure that it was seaworthy and properly loaded. It will be recalled that earlier in the nineteenth century, some vessels had been lost because they were unseaworthy or

improperly loaded. It would also seem that by the end of the nineteenth century, ships were better equipped with charts and instruments to aid navigation, so no longer was it possible to blame inaccurate aids for a ship being off course. Even the problem of insufficient harbours of refuge in times of storms was being solved by the construction of more facilities.

The Victorians took many steps to try to improve the safety record of British ships, but those who had an unscrupulous nature could always find some loop hole in a legislative enactment. The main criticism that possibly could be made of the era is that the Victorians placed too much faith in examinations and education. In some ways they dealt with only part of the problem; they established a system of tests, but no schools to educate seamen. Education, it was hoped would also solve the problems of vice and drunkenness which were partly to blame for disasters at sea. Such hopes proved ill founded and other agencies, such as philanthropists, had to be involved as well. At the beginning of this century, there had been an improvement in the safe conduct of vessels and people expected such advances to be maintained. It was obvious that the next step was to set up a properly organised national system of nautical schools, which would educate boys before going to sea, and men studying for their certificates of competency.

APPENDICES.

APPENDIX I.

Dramatis Personae.

Dates after a name refer to years of birth and death respectively. Sources are listed at the end of the appendix. The number in brackets at the end of each entry refers to the source(s) consulted.

Baynham, Henry. RN. 1862 on campaign in the Indies, Persian Gulf, Egypt and the Sudan. Invalided out 1884. Petty Officer, training ship 'Conway' 1884. Captain Superintendent training ship 'Wellesley' - 1891. Retired 1910. (8)

Buckingham, James Silk (1786-1855) author and traveller, journalist in India 1818-23. M.P. for Sheffield 1832-7, Travelled in America 1837-40. Writer of pamphlets on social matters. (4 and 5)

Deverell, G.S. RN. Appointed training ship 'Wellesley' 1881. Previously employed on H.M. Training Ship 'St. Vincent'. Employed on Industrial Training Ship 'Cumberland' Glasgow-1888. (8)

Dobson, T. (d.1885). Seventeenth Wrangler, Cambridge. Taught in Greenwich Hospital School, Hobart Town School, 'Conway' Training Ship and Hexham Free Grammar School. Headmaster of the South Shields Marine School 1875-1885. Died 8 October 1885. (11)

Fitzroy, Robert RN. (1805-1865) Vice-admiral, hydrographer and meteorologist. Commanded the Beagle 1828-36 with Charles Darwin as naturalist. Elected M.P. for Durham 1841. Governor of New Zealand 1843-4. F.R.S.1851. (4)

Flagg, Ambrose T. (d.1936) Educated Greenwich Naval College and Christ's College, Cambridge. Taught in King's College Street School, London. Awarded Master of Arts degree 1884. Appointed Headmaster of the South Shields Marine School February 1886. Retired 1903. Died 1936. (12)

Hall, James(1826-1904) Educated Royal Grammar School, Newcastle, Apprenticed to T. Wooster, Wharfmgongr 1837. Formed partnership with his brother John and Charles Mark Palmer to form shipping firms. Interests included loadline question, and provided S. Plimsoll with information. Philanthropic works; Newcastle Industrial Dwelling Company, 'Wellesley' Industrial Training Ship, Northumberland Village Homes for Destitute and Neglected Girls. (8)

Haswell, T. (1807-1889) Educated North Shields Royal Jubilee School 1815-1818. Apprentice glass grinder. Interests, music and teaching. Learnt the 'National' Instruction System at Westoe Lane School, South Shields. Master, Trinity Church School South Shields 1838, then Royal Jubilee School. His son wrote his biography The Maister. Retired 1886. (7)

Hooppell, Robert Eli. (d.1901) Educated St. John's College, Cambridge 1851. Degrees in mathematics and moral science. Taught mathematics Beaumaris Grammar School. Appointed head South Shields Marine School 1861. Interests; Roman Archaeology, and theology. Returned to Ministry, Byers Green, County Durham, 1875. (9,10,18)

King, George. (d.1917) Master, Sunderland Orphan Asylum October 1881. Wife employed as matron. Both previously employed at Boys' Refuge, Whitechapel. Retired 1916. Died, 27 November 1917. (13)

Murray, James (1806-1878) Clerk, Navy Pay Office. Foreign Office 1826. Senior Clerk 1851. Assistant under secretary of state Foreign Affairs 1858-69. C.B. 1869. Surveyed H.M. Consuls on the state of the Mercantile Marine 1844. (19)

Pocock, C.A.B. RN. Captain of the 'Wellesley' Training Ship 1868-1881. Retired because of ill health. (8)

Ryder, H. Dudley. RN. Appointed Captain of the 'Wellesley' Training Ship 1888. Previously employed on 'Impregnable' Training Ship. Appointment terminated 1891. (8)

Simey, R. (1834-1911) Educated Grange School. Solicitor. Clerk of the Peace, County Durham 1880. Lived in Durham from 1885. Pressure of work forced his relinquishment of connections with Sunderland Law Practice. Leader, Sunderland Town Council Conservative Party. Interests; Sunderland Orphan Asylum and Sunderland Board of Trade Navigation School. (17)

Spence, John Foster(1818-1901) Elected Tynemouth council, November 1854, Mayor 1861, 1891-4. Alderman 1862. Elected Board of Guardians 1862, and Tynemouth School Board 1883, Chairman 1886-8. Interests; Committee of the Tyne Sailors' Home and Technical Education. (14)

Stiles, James Jonathon (1835-?) Born Hastings. Employed Sunderland Board of Trade Navigation School, 1856(?) - 1863 or 1864. Founded own navigation school and later taught engineering. Interests; Councillor for East Ward in the 1870s. (3)

Thorn, William (1835-?) Born Devon. Taught Newcastle Trade School up to 1856 and then transferred to Newcastle Trinity House Navigation School 1857-1871. Opened his own school in North Shields, later his son entered the family business. Died in the 1890s or early this century, but the school continued until 1911. (1, 2 and 16)

Winterbottom, Thomas Masterman (1766-1859) M.D. Edinburgh 1792. Assistant to Dr. Willan London, few months of 1792. Physician to the settlement Sierra Leone, 1792-1797. Published An Account of the Native Africans in Sierra Leone to which is added an account of the Present state of medicine among them, and Medical Directories for the use of Navigators and Settlers in hot climates, 1803. Took over father's medical practice, South Shields 1797. Married Barbara Wardle, widow of a wealthy ship-owner 1805. Retired 1825. Spent much time abroad in retirement, but on committee investigating St. Hilda's Pit disaster, 1839. Paid off debts of Loyal Standard Association. Philanthropic interests; Master Mariners' Asylum and Annuity Society, the Fund for the Relief of Deserving Widows of Seamen, Aged Scullerman's Fund, Unmarried Servants Reward Fund and a fund to provide coal for the poor of Westoe at Christmas. (6 and 15)

Sources.

1. Census Returns for Newcastle. 1861.
2. Census Returns for North Shields. 1861, 1871, 1881.
3. Census Returns for Sunderland. 1861, 1871, 1881.
4. Concise Dictionary of National Biography O.U.P. 1969.
5. Dictionary of National Biography Vol. VII. Smith Elder, 1886.
6. ibid. Vol. LXII
7. G. Haswell The Maister Newcastle, 1895.
8. W. Hayward. James Hall of Tynemouth 2 Volumes 1896.
9. G. R. Hodgson. The Borough of South Shields Reid. 1903
10. A. Kennerley. Education of Merchant Seamen in the Nineteenth Century. M.A. Exeter University. 1978.
11. Letter to the Governor's of the Hexham Grammar School from T. Dobson. 1862. Lockhart Collection, Northumberland Record Office.
12. Obituary of A. Flagg. Shields Gazette 28 April, 1936.
13. Obituary of G. King. Sunderland Daily Echo 27 November 1917.
14. Obituary of J. F. Spence. Shields Daily News 22 July 1901.
15. Obituary of T. M. Winterbottom. Shields Gazette 8 July 1859.
16. Reports of the Science and Art Department 1855-8.
17. R. Simey. Sunderland Daily Echo 1870-1911
18. Shields Gazette 12 January 1869.
19. T. W. C. Vasey. The Emergence of Examinations for British Shipmasters and Mates, 1820-50. Ph.D. Durham University 1980.

APPENDIX II

Number of Apprentices enrolled and recorded by the Registrar
General of Seamen.

The decline in the number of apprentices can be seen in the following Parliamentary returns.

<u>Year</u>	<u>No. enrolled</u>	<u>Year</u>	<u>No. enrolled</u>
1845	15704	1885	1986
1855	7461	1895	1636
1865	5638	1900	1103
1875	4397		

Source: P.P. 1901. lxviii Table 23. p.55. Apprentices:-
Number of Indentures enrolled.

The same is also evident in the return showing the number of apprentices in the merchant service on 1 January 1850 and 1 January 1854.

<u>Year</u>	<u>No. Employed</u>
1 January, 1850	31,636
1 January, 1854	13,826

Source: P.P. 1854. lx. 233. Return of the number of
Apprentices in the Merchant Service on 1 January
1850 and 1 January 1854.

APPENDIX III

Number of Foreign Seamen Employed on British Merchant Ships.

The increase in the number of foreign seamen employed in British ships registered in the United Kingdom is shown in the Parliamentary return below:-

<u>Year</u>	<u>No. of foreign seamen employed.</u>
1858	11,458
1859	12,296
1860	14,280
1861	not completed
1862	16,096
1863	18,933
1864	21,923
1865	20,280

Source:- P.P. 1867. lxiii. p.141.

Figures for later in the century are given in the 26th Annual Report of the Wellesley' Industrial Training Ship.

<u>Year</u>	<u>No. of British Persons employed</u>	<u>No. of foreign Persons employed</u>
1853	165,205	7,321
1863	165,794	18,933
1873	182,399	19,840
1883	172,414	28,313
1892	185,437	30,899

These figures were based on the Board of Trade returns.

Source: 26th Annual Report of the 'Wellesley' Industrial Training Ship. 1894. p.47.

APPENDIX IV

Sections 14 and 15 of the Industrial Schools Act, 1866.

Clause 14:- Any person may bring before two justices or a magistrate any child apparently under the age of fourteen... That is found begging or receiving alms... in any public place...

That is found wandering, and not having any home or settled place of abode or proper guardianship or visible means of subsistence.

That is found destitute, being an orphan or having a surviving parent who is undergoing penal servitude or imprisonment.

That frequents the company of thieves.

The magistrate or justice before whom a child is brought, if satisfied on enquiry... may order him to a certified Industrial School.

Clause 15:- When a child apparently under the age of twelve years, is charged before two justices, or a magistrate, with an offence punishable by imprisonment or a less punishment, or in Scotland of theft, and the child ought, in the opinion of the justices or magistrates (regard being had to his age and the circumstances of the case) to be dealt with under this Act, the justices or magistrate may order him to be sent to a certified Industrial School.

Industrial Schools Act. 1866. 29 and 30 Vict. cap. 118.

Sections 14 and 15.

APPENDIX V.

'Wellesley' Dietary Scale - 1871.

Class 'A' - Boys over 85 lbs. weight.

	Breakfast		Dinner					Supper				
	Oatmeal	Milk	Soup	Pudding	Potatoes	Beef no bone	Bread	Treacle	Cocoa	Coffee	Sugar	Biscuits
	oz.	pt.	pt.	oz.	oz.	oz.	oz.	oz.	dr.	dr.	dr.	oz.
Sunday.....	5	½	-	5	12	5	-	-	5	-	7½	6
Monday.....	5	½	1½	5	-	-	4	-	-	5	7½	6
Tuesday....	5	½	1½	-	12	-	-	-	5	-	7½	6
Wednesday..	5	½	-	16	-	-	-	1	-	5	7½	6
Thursday...	5	½	-	5	12	5	-	-	5	-	7½	6
Friday.....	5	½	1½	5	-	-	4	-	-	5	7½	6
Saturday...	5	½	1½	-	12	-	-	-	5	-	7½	6

APPENDIX V (contd)

'Wellesley' Dietary Scale - 1871.

Class 'B' - Boys from 70 to 85 lbs. weight

	Breakfast		Dinner						Supper.			
	Oatmeal	Milk	Soup	Pudding	Potatoes	Beef	Bread	Treacle	Cocoa	Coffee	Sugar	Biscuits
	oz.	pt.	pt.	oz.	oz.	oz.	oz.	oz.	dr.	dr.	dr.	oz.
Sunday.....	4½	½	-	4½	11	5	-	-	4	-	6	5
Monday.....	4½	½	1	4½	-	-	3	-	-	4	6	5
Tuesday....	4½	½	1	-	11	-	-	-	4	-	6	5
Wednesday..	4½	½	-	14	-	-	-	1	-	4	6	5
Thursday...	4½	½	-	4½	11	5	-	-	4	-	6	5
Friday.....	4½	½	1	4½	-	-	3	-	-	4	6	5
Saturday...	4½	½	1	-	11	-	-	-	4	-	6	5

APPENDIX V. (contd)

'Wellesley' Dietary Scale - 1871.

Class 'C' - Boys under 70 lbs. weight.

	Breakfast		Dinner					Supper				
	Oatmeal	Milk	Soup	Pudding	Potatoes	Beef	Bread	Treacle	Cocoa	Coffee	Sugar	Biscuits
	oz.	pt.	pt.	oz.	oz.	oz.	oz.	oz.	dr.	dr.	dr.	oz.
Sunday....	4	$\frac{1}{2}$	-	4	10	5	-	-	3	-	$4\frac{1}{2}$	4
Monday....	4	$\frac{1}{2}$	$\frac{3}{4}$	4	-	-	2	-	-	3	$4\frac{1}{2}$	4
Tuesday...	4	$\frac{1}{2}$	$\frac{3}{4}$	-	10	-	-	-	3	-	$4\frac{1}{2}$	4
Wednesday.	4	$\frac{1}{2}$	-	12	-	-	-	1	-	3	$4\frac{1}{2}$	4
Thursday..	4	$\frac{1}{2}$	-	4	10	5	-	-	3	-	$4\frac{1}{2}$	4
Friday....	4	$\frac{1}{2}$	$\frac{3}{4}$	4	-	-	2	-	-	3	$4\frac{1}{2}$	4
Saturday..	4	$\frac{1}{2}$	$\frac{3}{4}$	-	10	-	-	-	3	-	$4\frac{1}{2}$	4

Source: Third Annual Report of the 'Wellesley' Committee 1871.

APPENDIX VI

"Wellesley" Training-Ship: General Routine 1870.

A.M.

4.30 - Summer)) Turn the hands up; wash; breakfast; clean decks.
5.00 - Winter))
7.00 - Boat for milk
7.50 - Boat for Officers.
7.30 - Summer) Division for inspection 8.00 up top gallant
) yards, loose sails.
8.00 - Winter) Divisions for inspection.
8.30 Prayers; Reports; Instructions until 11.30
10.0 Boat with messengers.
10.25- 10.30 Stand easy
11.30 Clear up decks; boat for officers' dinners; play
11.45 Cooks of the messes.
12.00 Dinner.

P.M.

1.00 Assembly; instructions until 3.30
2.20 Stand easy (ten minutes)
3.30 Drill or singing
4.00 Boat for milk (in summer)
4.15 Cooks of the messes.
4.30 Supper; play
6.00 Divisions; prayers and bed.
Night School and Reading Room party till 8.30
Summer - Bed at 7.30
10.0 Last Boat from the New Quay
Monday and Thursday - a.m. - Wash clothes; air bedding
Wednesday - Religious instruction from 2.30 - 3.30 p.m.

Thursday - Make and mend clothes; 1st, 2nd, 3rd and 4th divisions of watch on deck.

Saturday - Clean ship

Every boy in the ship, except on look out, is to be present at religious instruction.

Winter Evening Routine

Monday - Singing.

Tuesday, Wednesday, Friday and Saturday - Night School and Reading Room.

Thursday - Play

Summer Routine

In fine weather, the watch on deck to drill aloft in forenoon; seamanship instruction in the afternoon.

Friday Morning - All hands at sail drill.

Blankets to be washed at the end of December, April and August. Blue clothes to be washed by divisions once in two months.

Source: Second Annual Report of the 'Wellesley' Committee 1870. A plaque in the School Museum at Blyth gives the following routine. It is undated, but it is later than the routine above and possibly was in use in 1914, when the vessel was burnt out.

Summer

4. a. m. - Night watchman lights boiler.

5. 40 - Call officers.

5. 50 - Call boys. Silent prayer. Stow beds.

6. 00 - Scrub decks.

6. 30 - Duty boys and boat crews to bath. Muster.

- 6.35 - Remainder to bath
- 6.55 - Cooks
- 7.00 - Breakfast
- 7.30 - Cooks clear up mess decks, remainder clean up decks.
- 7.50 - Return cleaning gear.
- 8.00 - Hoist colours - one division in rotation - physical drill - Boat pulling, exercising aloft, signalling.
- 8.30 - Sick call. Clear up decks for divisions.
- 8.40 - Divisions and Prayers.
- 8.55 - School and Instruction.
- 10.30 - Stand easy. Defaulters.
- 11.55 - Return stores. Clear up decks.
- Noon - P.E. then recreation
- 12.30 - Dinner.
- 1.15 - Boys for School to wash
- 1.30 - School and Instruction
- 3.15 - Stand Easy
- 3.25 - Carry on
- 4.25 - Return stores.
- 4.30 - Cooks clear up desks.
- 4.45 - Tea.
- 5.15 - Cooks clear up Mess Decks.
- 5.30 - Boys to land for recreation.
- 7.30 - Landing party to return. Hoist boats.
- 7.40 - Fire quarters.
- 7.50 - Prayers.

- 8.00 - Place beds; Shift clothing; Silent Prayer; Turn in.
- 9.00 - Rounds. Lights out except Police lights.
- 10.30 - Officers' cabins - Lights out.

Winter (as above except)

- 1.30 p.m. - Watch to school. Boys not in school to land for object lessons and recreation.
- 3.25 - Landing Party to return.
- 5.45 - Hoist boats.
- 6.00 - School and lectures.
- 7.15 - Return stores.
- 7.25 - Supper.

Tuesday

- 6.p.m. - Singing lessons.

Wednesday

- 6.00 p.m. - Muster boats for inspection.
- 6.30 - Massed Band practice.

Thursday

- 6.45 a.m. - One division in rotation to air blankets.
- 5.p.m. - Ambulance class; classes for schoolroom.

Friday

- 1.30 p.m. - Clean Upper Deck paint work (winter)
- 3.00 p.m. - Watch out of school to wash.
- 3.15 - Stand easy
- 3.30 - Religious Instruction.
- 4.15 - Marks read out.
- 5.30 - Choir practice (Roman Catholics to clean paint work on upper deck - summer).

6.00 - Inspect clothing.

Saturday

- 4 a.m. - Night Watchman lights boiler.
- 5.30 - Call officers.
- 5.40 - Call boys. Silent Prayers. stow beds.
- 5.50 - Assemble. Scrub schoolroom, armoury, bandroom, workshop.
- 6.30 - Duty boys and duty boat crew to bath, muster.
- 6.35 - Remainder to bath.
- 7.00 - Breakfast.
- 7.30 - Assemble. Cooks of messes - scrub all mess gear, stools and tables. Scrub bathroom and orlop decks.
- 8.15 - Wash down and dry up lower and orlop decks.
- 8.50 - Prayers.
- 9.00 - Hands and feet inspection
- 9.10 - Medical and dental inspection. Issue clean clothes to liberty boys.
- 9.45 - Assemble. Scrub poop, upper and main decks.
- 10.50 - Stand easy.
- 11.00 - Clean bright work.
- 11.25 - Return cleaning gear.
- 11.30 - Physical Education.
- Noon - Issue clean clothing.
- 12.30 - Dinner. Recreation.
- 1.30 - Land for recreation at Playfield.
- 4.15 - Landing party to return. Hoist boats (winter)
- 4.30 - Clear up decks.

- 4.45 - Tea
- 5.00 - Cooks clear up mess decks. Remainder play on upper decks.
- 6.00 - Muster. Boats for inspection.
- 6.30 - Band Practice. Write letters.
- 7.30 - Hoist boats (summer)
- 7.40 - Fire Quarters.
- 7.50 - Prayers.
- 8.00 - Place beds. Shift clothing. Silent Prayer. Turn in.
- 9.00 - Rounds. Lights out except Police light.
- 10.30 - Officers' Cabin lights out.

Sunday (summer)

Daily Routine half an hour later.

- 8.15 a.m - Boys to clean
- 9.15 - Divisions and captains inspection.
- 10.00 - Disperse. Land Church Parties.
- 1.00 p.m. - Dinner.
- 1.30 - Cooks clear up mess decks.
- 2.00 - Land for Recreation, If wet, schoolroom and lower deck.
- 4.30 - Landing party return. Shift boats.
- 4.45 - Hoist boats.
- 5.00 - Tea.
- 6.15 - Divisions.
- 6.30 - Divine Service.
- 7.45 - Shift clothing.
- 8.00 - Place beds. Silent Prayer. Turn in.

- 9.00 - Rounds. Lights out except Police lights.
- 10.30 - Officers' Cabin Lights out.

Sunday (winter)

Same routine with following exceptions:-

- 5.45 p.m. - Divisions.
 - 6.00 - Divine Service.
 - 7.00 - Shift Clothing.
 - 7.15 - Cooks.
 - 7.30 - Supper.
 - 8.00 - Place beds. Silent prayer. Turn in.
-

APPENDIX VII

School Routine on the "Wellesley" Training Ship.

	(A.M.)			(P.M.)			
	9.0 - 9.45	9.45-10.25	10.30-11.30	1.00-1.40	1.40-2.20	2.30-3.00	3.00-3.30
1st Class	Scripture	Writing in books	Arithmetic	Secular Reading	Dictation	Arithmetic, mental or slate	Geography or catechising tables.
2nd Class	Writing	Arithmetic	Secular Reading	Scripture	Arithmetic, Mental or slate	Writing from Dictation	Geography or catechising tables
3rd Class	Reading	Writing in Books	Arithmetic	Reading	Transcribing on slates	Arithmetic	Tables.
4th Class	Spelling	Arithmetic	Arithmetic Writing on slates.	Swimming	Writing on slates	Reading	Tables.

Variety of Instruction is to be attained by introducing catechising on interesting subjects, and learning Tables.

On Wednesday, Religious Instruction from 2.30 - 3.30 p.m.

In the Summer - General Sail Exercise on Friday forenoon.

Source: Second Annual Report 1870. p.32.

APPENDIX VIII.

Tables showing the educational attainments of
'Wellesley' inmates, their ages on entry and their
places of domicile.

Source: 22nd Annual Report 1891. pp. 12-13.
 34th Annual Report 1903. pp. 26-7.

Wellesley: Return of Boys received 1868 - 1902.

Date:	Age in Years					State of education on entry									Received from:											
	14	13	12	11	10 & under	reading			writing			arithmetic			Newcastle	Tynemouth	Northumb.	So. Shields	Gateshead	Co. Durham	Lancashire	London	Yorkshire	Other	Unknown	TOTAL
						well	little	not	well	little	not	well	little	not												
1868-9	19	61	47	29	29	28	63	94	24	57	104	12	54	119	112	52	3	11		2					5	185
1870-1	7	18	9	21	12	16	28	23	15	27	25	7	26	34	5	20	1	20	7	13			1			67
1872	2	11	6	10	15	2	18	24	2	17	25	1	10	33	1	17		13	4	7		2				44
1873	1	32	23	30	40	8	64	54	5	50	71	2	35	87	2	11	1	14	4	25		67	2			126
1874	-	13	21	31	13	8	42	28	8	37	33	4	25	49	20	9	2	11	9	11		16				78
1875	3	8	10	20	9	1	25	24	1	20	29	1	10	39	12	16	2	14	4	2						50
1876	2	8	23	54	4	9	34	19	32	21	9	9	30	23	14	5		16	7	10	10					62
1877	2	28	21	31	9	5	20	66	7	25	59	8	30	53	8	10	3	6	25	11	28					91
1878	1	21	37	15	4	3	32	43	2	27	49	2	23	53	20	8		7	7	14	21		1			78
1879	-	14	28	16	4	7	25	30	5	27	30	5	26	31	19	13		4	5	14	7					62
1880	1	37	45	28	6	24	44	49	24	45	48	23	43	51	27	13	2	17	17	16	23		1	1		117
1881	1	18	36	11	10	25	45	4	22	50	4	12	37	27	14	10	7	4	7	4	28			2		76
1882	-	33	38	32	15	13	18	37	9	71	38	7	68	43	27	20	7	14	9	26	13		1	1		118
1883	1	15	25	24	20	9	50	26	9	51	23	8	48	29	17	20	3	21	6	13	5					85
1884	-	14	30	26	16	15	51	20	13	53	20	15	47	24	16	21	5	19	6	15	2			2		86
1885	-	15	30	21	13	23	35	22	23	35	22	17	41	22	14	16	2	24	6	15			1	2		80
1886	-	9	25	22	1	14	36	7	14	36	7	3	47	7	20	8	5	17	-	6	1					57

Wellesley: Return of Boys received 1868-1902 (contd.)

Date:	Age in Years					State of education on entry									Received from:											
	14	13	12	11	10 & under	reading			writing			arithmetic			Newcastle	Tynemouth	Northumb.	So. Shields	Gateshead	Co. Durham	Lancashire	London	Yorkshire	Other	Unknown	TOTAL
						well	little	not	well	little	not	well	little	not												
1887	5	7	33	15	4	29	31	4	28	31	5	22	27	15	14	13	4	10	2	4	16		1			64
1888	1	16	28	35	3	14	55	12	15	56	12	10	50	25	53	4	2	11	-	22	10					102
1889	3	19	28	43	1	43	39	12	40	42	12	26	39	29	42	7	6	10		22	6			1		94
1890	-	9	52	20	4	58	17	10	41	32	12	17	51	17	38		12	13	1	11	6	2		2		85
1891	-	13	54	15	1	60	23	-	43	40	-	19	41	23	36	1	16	6	3	12	9					83
1892	2	17	54	12	1	46	38	2	44	37	5	45	30	11	52	1	5	5	11	7	4		1			86
1893	3	13	44	4	1	36	27	2	36	27	2	36	27	2	43		5	10		5	2					65
1894	-	18	50	17	1	40	36	10	35	40	11	37	36	13	56		4	2	5	7	11		1			86
1895	1	17	47	12	-	4	51	22	4	58	15	4	53	20	45	1	10	5	2	3	9		2			77
1896	-	7	41	12		7	36	17	8	33	19	6	33	21	33	1	3	3	8	2	7		2		1	60
1897	8	22	68	16	1	20	75	20	16	71	28	15	67	33	47		11	8	15	18	9	4	2	1		115
1898	3	20	45	23	2	24	54	15	16	62	15	17	55	21	31		8	10	20	8	12		4			93
1899	3	16	51	14		19	36	29	17	39	28	15	38	31	30	1	9	3	10	17	7	1	4		2	84
1900	1	20	56	15		13	46	33	11	53	28	12	47	33	39	-	13	4	4	11		7	9	3	2	92
1901	4	18	55	24		19	52	30	17	60	24	15	50	36	39	2	11	3	11	20	7		6	1	1	101
1902	2	14	57	12		12	40	33	11	41	33	12	38	35	35	1	7	9	10	13	5				5	85
																							TOTAL:-			2815

Green's Home: Return of Boys Received to 30 June, 1902.

Date	Age in Years						State of education on entry									Received from:														
	11	10	9	8	7	6 and under	reading			writing			arithmetic			Newcastle	Tynemouth	Northumb.	So. Shields	Gateshead	Co. Durham	Lancs.	Yorks	Others	TOTAL					
							well	little	not	well	little	not	well	little	not															
1885	6	18	7	3	1		3	11	21	3	11	21	3	11	21	4	5		22		4									35
1886	10	16	4	12	4	2	5	7	36	5	7	36	5	7	36	27	16		3			1	1						48	
1887	3	5	2	4			1	8	5	1	8	5	1	8	5	4	2	1	4		3								14	
1888	2	15	14	1	1	2		21	14		21	14		21	14	12	1	5	9		4	3		1					35	
1889		13	5	2	1	1	7	6	9	7	6	9	7	6	9	10		4	3		2	3							22	
1890	6	15	7	2	1	1	6	14	12	5	13	14	4	12	16	11		5	8		6	2							32	
1891	6	8	10	3	2	1	2	13	15	2	12	16	2	13	15	13		6	7		4								30	
1892	9	9	2	2	3		3	11	11	4	10	11	3	6	16	19		2	3		1								25	
1893	11	11	6	4	2	3	4	22	11	4	19	14	4	21	12	25		3	5		1	2	1						37	
1894	6	8	8	2	3	1	3	15	10	3	15	10	2	16	10	22		2	2		2								28	
1895	3	12	5	5	3		3	17	8	3	16	9	3	16	9	14		4	4		1	5							28	
1896		6	6	1	2		2	9	4	1	10	4	1	9	5	7		4	1		1	2							15	
1897	3	16	7	2	3	1	3	21	8	6	18	8	3	21	8	7		1	3	11	2	7	1						32	
1898	2	15	3	2	2	2	6	12	8	3	16	7	1	18	7	9		5	1		5	6							26	
1899	9	16	6	2			6	24	3	8	23	2	5	22	6	13			2	4	3	7	4						33	
1900	6	14	9	6	2		3	24	10		25	12	2	17	18	9	1	6	6	1	3	10	1						37	

Green's Home: Return of Boys Received to 30 June, 1902. (contd.)

Date:	Age in Years						State of education on entry									Received from:												
	11	10	9	8	7	6 and under	reading			writing			arithmetic			Newcastle	Tynemouth	Northumb.	So. Shields	Gateshead	Co. Durham	Lancs.	Yorks	Others	.	TOTAL		
							well	little	not	well	little	not	well	little	not													
1901	2	14	8	2	1	1	5	16	7		23	5	2	15	11	10		4	2	2	8	2						28
1902	9	15	8	1	2	1	8	22	6		30	6	1	15	20	16	1	6	5		4	2	1	1			36	
																							<u>TOTAL:-</u>		541			

APPENDIX IX

The Requirements for passing the Board of Trade Examinations
introduced on 1 January, 1851.

A second mate had to be able to write and know the first five rules of arithmetic. This had been the first requirement under the voluntary system. He had to be able to correct a course steered for variation and leeway, to correct the sun's declination for longitude, to find the latitude by meridian and altitude of the sun, and use a quadrant. In seamanship, he had to have knowledge of the rigging and unrigging of ships, the stowing of holds, the measurement of log-line, glass, leadline, rule of the road at sea and lights.

An only mate was required to have served four years at sea, as had the second mate, and to be aged eighteen. He had, in addition, to be able to find the place of his vessel at sea by the observed altitude of the sun, work a day's work, observe and calculate the amplitude of the sun and deduce the variation of the compass therefrom. He was also required to lay off the place of the ship on a chart, both by bearings of known objects and by longitude and latitude, and be able to use a sextant. In seamanship, he had to be able to moor and unmoor, keep a clear anchor and keep a ship's log.

A first mate had to be at least nineteen and to have served five years at sea. In navigation, he had to be able to calculate the time of high water, to observe azimuths and compute the variation, to compare chronometers and keep their rates, and find the longitude by them from an observation of the sun and be able to use and adjust the sextant by the sun. In seamanship, he had

to know, in addition to the requirements for only mate, about shifting large spars and sails, managing a ship in stormy weather, taking in and making sails, shifting yards and masts, loading and unloading cargoes, anchors and casting a ship on a leeshore.

In addition to the above, a master had to be twenty one years old and have some knowledge of the ship's compass and how it was affected by the ship's iron.

'He must possess a sufficient knowledge of what he is required to do by law; as to entry, and discharge and management of the crew; as to penalties and entries to be made in the official log. He will be questioned as to his knowledge of invoices, charter party, Lloyd's agent and as to the nature of bottomry'

(Notice of Examinations of Masters and Mates 19 December 1850 p.5)

There was one further examination, a voluntary one for the extra master's certificate. This was aimed at persons who were desirous of obtaining commands of ships and steamers of the first class. Candidates had to work a lunar observation by both sun and star, to determine the latitude by the moon and star and also by double altitude of the sun. A knowledge of compass deviation, great circle sailing, the law of storms, of how to heave a ship down and how to construct rafts in the event of a wreck was also required.

Extracted from The Notice of Examinations of Masters and Mates
19 December 1850.

APPENDIX X.

Table showing the numbers of candidates failing the colour vision test.

<u>Year</u>	<u>No. examined as part of masters & mates exam</u>	<u>Failed</u>	<u>Per cent</u>	<u>No. examined for colour vision only</u>	<u>rejected</u>	<u>per cent</u>
1877-9	5967	26	0.43			
1879-80	4334	16	0.37	10		
1880-1	4319	16	0.33	182	5	2.75
1881-2	4079	19	0.46	59	8	13.65
1882-3	4009	26	0.65	69	6	8.7
1883-4	4603	17	0.37	56	10	17.8
1884-5	4350	23	0.52	110	8	7.27
1885-6	4215	45	1.06	294	18	6.12
1886-7	4124	25	0.61	415	26	6.27
1887-8	4128	17	0.41	837	33	3.93
1888-9	4443	18	0.40	789	36	4.51
1889-90	4662	29	0.49	839	29	3.45
1890-91	5289	63	1.19			
1891-2	5219	43	0.82			
1892-3	5200	61	1.17			
1893-Aug.) 1894.)	6663	85	1.27			
<u>TOTAL 1877-1890.</u>	53233	271	0.51	3660	179	4.89

N.B. The figures for the years 1890 - August 1894 include men examined in colour both as part of the mates examination and in colour alone.

Sources: P.P. 1890. lxvi. p.73. (c6153) Report on Sight Tests.

P.P. 1899. lxxxvii. (c9248) Report on Sight Tests.

Table showing numbers taking and failing form and colour vision tests.

<u>Year</u>	<u>form vision test</u>	<u>failed</u>	<u>per-cent</u>	<u>colour vision test</u>	<u>failed</u>	<u>per-cent</u>
Sept.1894- 1895.	6783	103	1.05	6680	93	1.39
1896	5051	34	0.67	5017	51	1.02
1897	5977	34	0.57	5943	40	0.67
1898	4103	23	0.56	4080	33	0.81
1899	4642	21	0.45	4621	39	0.84
1900	4318	18	0.42	4300	31	0.72
1901	4901	23	0.47	4878	46	0.94
1902	4622	22	0.48	4600	34	0.74

Sources: P.P. 1899. lxxxvii.(c9248) Report on Sight Tests.
P.P. 1900. lxxvii.(cd.116) Report on Sight Tests.
P.P. 1901. lxxviii.(cd.632) Report on Sight Tests.
P.P. 1902. iii. (cd.1140) Report on Sight Tests.
P.P. 1903. lxxiii.(cd.1580) Report on Sight Tests.

APPENDIX XI

List of navigation and engineering teachers with academies.

The first date is the date of first listing in the directories, the second is the last date of listing. If only one date given, listed in only one directory.

Sunderland.

1. Alexander Baharie, Sussex Street, then 7 Lawrence Street.
1834. 1873.
2. W. C. Bergen, 7 Lawrence Street, 1879. 1885.
3. W. Chapman, 65 Nile Street, 1850.
4. W. Cockburn, 51 Railway Street, 1871. 1877.
5. B. Crick, 43 Lawrence Street, 1865. 1873-3.
6. R. Crick, 13 Clark Terrace, then Lawrence Street, 1859. 1862.
7. J. Currie, 1877-8
8. J. Fish, 1870.
9. W. Gibson, 9 Cousin Street, 1877. 1881.
10. Jos. Graham, Monkwearmouth Shore, 1846. 1848.
11. G. Haig, 7 Ann Street, 1879.
12. J. Harrison, Hallgarth Square, 1850.
13. S. Mence, 37 Fawcett Street, 1899. 1902.
14. Alfred Metcalfe, 1894. 1939.
15. Michael Metcalfe, 38 Frederick Street, 1887. died 1920.
(Engineering).
16. Cuthbert Metcalfe, teaching in evening classes in 1889 and
associated with Michael's school in the twentieth century.
17. J. Reynolds, 5 Moor Terrace, 1865-6.
18. W. Robson, 17 Nile Street, 1846. 1857-8.

19. H. Saunders, (in partnership with Stiles) 1874. 1879.
20. F. Southern (Engineering) 1 Green Street, 1897.
26 Murton Street, 1901. 1930.
21. J. J. Stiles, Various addresses, 1866. 1896.
22. C. M. Swainston, 4 Norfolk Street, 1888. 1931.
23. J. J. Urwin, Lodge Terrace, 1856. 1857-8.
24. C. F. Watson, 37 Fawcett Street, 1902. 1906.

North Shields.

25. J. Bavidge, Cooper's Row, Milburn Place, 1846. 1848.
26. T. Haig, Lyne Street, 1848.
27. Lieut. Charles Hopkin, R.N., 1822. 1834.
28. J. G. Liddle or Liddell, 13 Tyne Street, 1854-5.
29. Edward Marshall, Advertisements in Shields Gazette in
1901. Died in 1914.
30. T. Maughan, 168 Church Street, 1861. 1867.
31. O'Kune, 1851.
32. W. Thompson, (Engineering) 21 Borough Road, 1883. 1920.
33. W. H. Thorn (Senior), 7 Waterville Terrace, 1871. 1882.
34. W. Thorn (Junior), (in partnership with father) 1883.
1910. (Engineering).
35. Thomas Thorn, 1910.

South Shields.

36. T. Ainsley, Albion Street, 1846. Wellington Street, 1853.
1856. Market Place, 1857, 1883. Mill Dam, 1883, 1920(?)
37. W. H. Ainsworth, 10 Heugh Street. 1859-60.
38. E. Brown, Coronation Street, 1864 (Slater). Then again
1871 to 1873/4.
39. George Cooper, 1828 - 1846.
40. J. Coulson, Wellington Street, 1844. 1853.

41. W. B. Duncan, Ocean Road, Nautical stationers. 1881-2.
Teacher 2 Wesley Street, 1883-4. Then King Street 1885.
1901.
42. J. Harper, 1827. 1856.
43. J. Lackland, 1826. 1844. Then a printer and stationer.
44. T. Liddle, 10 Cleveland Street, 1885. 1887. Then at
Ainsley's School.

Newcastle.

45. H. Evers, Marine Engineering 1897. 1907. Previous to
1897 had a school of science.
46. T. Grey, address in Newcastle unknown. 1857 (?) Then in
South Shields in 1860 and 1861.
47. W. Pennington, 21 Melbourne Street, 1844, 1848.

Blyth

48. M. Dobson, 1887. 1889.
49. Edward Temple, Crofton, Blyth, 1846. 1886.
50. Thomas Temple, 1864, died in 1875. Probably assisted his
father, Edward, before 1864.

Sedgefield.

51. James Grieve, Rectory Row, 1878. 1890.

Jarrow.

52. J. Major, had academies from 1870, but is only listed in
Kelly's 1873 Directory as having a navigation and
commercial academy. Continued until 1877 or '1878.

Kingston upon Hull

P. C. Bean, 1867.

T. Dalton, 1834. 1859.

G. T. Fullam, 1859. 1867.

A. Horne, 1892. 1895.

Commander Jones, 1872.

H. Lawson, 1903. 1929.

A. N. Somerscale, 1876. d.1939.

H. Symington, 1895. 1895.

Leith.

T. Cregan, 1893-4 only.

J. Finlaison (general academy, but included mathematics) 1892.)
1901.)

T. S. Forman, 1857. 1878.

J. Lockie, 1882. 1916.

J. Pryde (I), 1841-2 only. (The relationship between Pryde I
(and Pryde II is unclear, it is
possible they were father and son.)

J. Pryde (II), 1893. 1915.

T. Scotland, 1821. 1854.

A. Sime, 1849. 1867.

D. Scrymgeour, (classical) 1856. 1857.

J. W. Scrymgeour, 1845. 1846.

J. W. Symonds, 1857. 1861.

APPENDIX XII.

List of Teachers with places of birth.

(If a teacher is not listed, his place of birth is unknown)

Teachers are grouped under the towns where their academies were situated.

<u>Name of Teacher,</u>	<u>Place of Birth.</u>
<u>Sunderland.</u>	
Alexander Baharie,	Sunderland.
W. C. Bergen,	Elyth.
William Cockburn,	Sunderland.
Bainbridge Crick,	Hetton le Hole.
G. Gibson,	Newcastle.
G. Haig,	Scotland.
John Harrison,	Monkwearmouth, Sunderland.
Alfred Metcalfe,	Bishop Wearmouth, Sunderland.
Cuthbert Metcalfe,	" " "
Michael Metcalfe,	" " "
Henry Saunders,	Deptford, Kent.
J. J. Stiles,	Hastings, Sussex.
<u>South Shields.</u>	
Thomas Ainsley,	South Shields.
Edward Brown,	Ashton, Lancs.
John Coulson,	South Shields.
William Duncan,	South Shields.
J. Harper,	South Shields.
James Lackland,	County Durham.
<u>Sedgefield.</u>	
James Grieve,	Stockton-on-Tees.

<u>Name of Teacher.</u>	<u>Place of Birth.</u>
<u>Newcastle.</u>	
Henry Evers,	Amblecote.
Thomas Grey,	Gosforth.
William Pennington,	Cumberland.
<u>North Shields.</u>	
Edward Marshall,	Blyth.
Thomas Baughan,	Northumberland (possibly Bamburgh area.)
William Thompson,	North Shields.
William H. Thorn (Senior),	Devon.
William H. Thorn (Junior),	Newcastle.
<u>Jarrow.</u>	
John Major,	Long Benton, Newcastle.
<u>Blyth</u>	
Martin Dobson,	Hexham.
Edward Temple, (father)	Graysgate.
Thomas Temple, (son)	Corbridge.
<u>Hull.</u>	
T. Dalton,	Hull.
G. T. Fullam,	Hull.
A. N. Somerscale,	Hull.
<u>Leith.</u>	
J. Finlaison,	England.
T. S. Forman,	Wifeshire.
J. Lockie,	Berwickshire.
J. McEwan,	Balmoral.

<u>Name of Teacher.</u>	<u>Place of Birth.</u>
<u>Leith</u> (contd.)	
J. Fryde (I),	not Scotland.
J. Fryde (II),	Leven, Fifeshire.
T. Scotland,	Leith.
J. W. Scrymgeour,	Not Scotland.
A. Sime,	Dundee.
J. W. Symonds,	England.

BIBLIOGRAPHY.

BIBLIOGRAPHY

Order of Materials.

A. Primary Sources.

1. Manuscript (by repository).
2. Typescript (by repository).
3. Printed National Records.
 - a) Parliamentary Papers.
 - i. Reports.
 - ii. Bills.
 - iii. Correspondence and Returns.
 - b) Pamphlets (by repository).
 - c) Periodic Publications.
 - d) Books.
4. Printed Local Records (by repository).
5. Directories and Yearbooks.
 - a) North East of England.
 - b) Edinburgh and Leith.
 - c) Kingston upon Hull.
6. Newspapers.

B. Secondary Sources.

1. General Reference Works.
2. Monographs.
 - a) Autobiographies and Biographies.
 - b) Nautical Books.
 - c) General Books Published before 1914.
 - d) General Books Published after 1914.
3. Pamphlets.
4. Articles.
5. Theses.

BIBLIOGRAPHY

The place of publication is London unless otherwise stated

A. Primary Sources

1. Manuscript (by repository).

Blyth: Central Library

Census returns for Blyth and Cowpen, 1841 - 1881.

Microfilm

Mechanics Institute Minute Book, 1877 - 1903.

Blyth: Wellesley Nautical Community School.

Draft of the Rules and Byelaws of the School, undated.

Plan of the Vessel, undated.

Register of Boys on Board, 1868 - 1933.

Colton: Norfolk (Mrs. J. Taylor)

Diary of J. Reed of a voyage at sea.

Durham: County Archives.

Census returns for Sedgefield, 1871, 1881. Microfilm.

Census returns for Chester-le-street, 1851, 1861. Microfilm.

Edinburgh: Scottish Record Office.

Census returns for Edinburgh and Leith, 1841-1891 inclusive.

Kingston upon Hull: County Record Office.

Letters from P. L. Bean. BHH/99, 121.

BHH/99, 225a.

BHH/99, 275.

BHH/102, 413. 426.

BHH/117, 272.

BHH/112, 846, 853.

Death of T. Fullam, 6 December 1853. CLB/248, 307.

Kingston upon Hull: Central Library.

Census returns for Kingston upon Hull, 1841 - 1881
inclusive, Microfilm.

London: Public Record Office, Kew.

File on Board of Trade Examinations MT9/37/M9729. 1867.
Letter from J. Micardo to Secretary of the Board of Trade
MT9/37/M8223.

'Wellesley' Industrial School Ship HO45/9340/22217.
HO45/9840/B10830.
HO45/9841/B10830.

Industrial Schools HO45/10307/120912.

Shields Marine Board * MT29/9.

Sunderland Marine Board Minute Books* 1850-56, 1856-62.
MT26/14-15.

* These minute books did not contain much relevant
information.

Newcastle: Central Library

Census returns for Newcastle upon Tyne, 1841 - 1881.
Microfilm.

Newcastle School Board Minutes, 1884-97, Volume 2: 1898-
1903, Vol.3.

Newcastle: Trinity House.

Trinity House Journals, 1811-28, 1828-40, 1840-50, 1850-
55, 1856-1862, 1861-1870, 1870-1885.

Trinity House Order Books, 1803 et seq and an earlier
undated one.

Trinity House School Committee Minute Book, 1860.

Newcastle: Tyne and Wear Archives.

Corporation of Sunderland Minute Books, 1888 - 1904.

Accession Numbers, SDB. AA/1/15-23 (some of the later books are a mixture of manuscript and printed materials).

Sunderland College and Secondary School Sub-Committee

Minute Book, 1903. Acc. No. T.199/82-3.

Sunderland Higher Education Committee Minute Book, T199/129

Sunderland Library and Museum Committee Minute Book

Acc. No. SDB/A/17/1/2-3.

Sunderland Technical Education Committee Minute Book, 1899-1902. Acc. No. T 199/80.

Trinity House Balance Sheets. Acc. No. 659/513

Trinity House Cash Books, 1832-42, 1842-5, 1866-8. Accession Nos. 659/464-6, 659/480-7

Trinity House Cash Day Books. Acc.No. 659/494-7

Trinity House Cash Ledgers, 1843-65. Acc.Nos. 659/471-6

Trinity House Letter Books, 1831-1874. Acc. Nos. 659/185-200.

Newcastle: University Main Library

W. Runciman Collection of Papers. Accession Numbers, W.R.2., W.R.23., W.R.317., (3 Volumes), W.R. 321, W.R. 342, W.R.343, W.R. 355.

North Shields; Local History Centre.

Census returns for North Shields, Tynemouth and Whitley, 1841-81. Microfilm.

Tynemouth School Board Minute Books, 1871-89, 1889-1893.

Tynemouth School Board Reports and Schedules, 1879-81.

Northumberland Record Office.

Northumberland Technical Education Committee Minute Books,
1890-1903. Acc. Letters CC/CM/TE.

South Shields: Borough Solicitors' Department.

Account Sheet belonging to T. M. Winterbottom, 1836 - 7.
Conveyance of the site and Statutes of the Marine School,
July 1836 - August 1837.
Indentures concerning the Marine School, 1852, 1860, 1877,
1879, 1894.

Letter from W. Howel to A. Flagg, 30 September 1886.

Letter to the Marine School Governors from Margaret
Hooppell, 21 January 1902.

Letters from various persons, various dates.

Marine School Governors Minute Book, 1891 - 1907.

W. Pendered. A Plan for the Management of the Marine
School, undated.

G. Pope. A Plan for Conducting the Marine School, 3 December
1860.

South Shields: Central Library Local History Collection.

Census returns for South Shields, Boldon and Westoe,
1841-81, Microfilm.

A. Flagg. Collection of manuscript notes and references.

T. Salmon. Churches, Chapels and Schools in South Shields,
a survey, 1856.

South Shields: Marine and Technical College.

Marine School Admissions Register. Vol. I, 1861-1906.

Marine School Inventories of Furniture, Instruments, Books
and Charts, various dates.

Marine School Monthly Rolls and Attendance Registers.

2 Volumes, 1861-85, 1886-1910.

Letter to the Marine School Governors from the Marine School Pupils, 13 February 1869.

R. E. Hooppell. Letter to the Marine School Governors, 5 February 1869. Materials for Lectures, November 1862. South Shields (Mr. R. Butler).

T. L. Ainsley. Private Ledger, Journal for 1909.

Sunderland: Museum and Library

Census returns for the parishes of Monkwearmouth and Bishopwearmouth, 1841-81. Microfilm.

J. W. Corder. Sunderland Parish. Vol. III. Collection of manuscript notes, unpublished.

2. Typescripts. (by repository).

Hebburn: (Dr. C. Swainston)

C. M. Swainston. Memoirs. 2 volumes.

South Shields: (Miss J. Robinson)

The Diary of Thomas John Scott of a Voyage to India.

3. Printed National Records.

a) Parliamentary Papers

i) Reports

1834	viii.	315	<u>Report from Select Committee inquiring into Drunkenness.</u>
1836	xvii.	567	<u>Report from Select Committee appointed to inquire into the causes of shipwrecks.</u>
1839	ix.	223	<u>Select Committee on the Shipwreck of Timber Ships and loss of life thereon.</u>

- 1843 ix. 549 Report of Select Committee on Shipwrecks, 1st. Report and 2nd. Report.
- 1847 x. 392 Report of the Committee on Navigation Laws (1st, 2nd, 4th and 5th Reports).
- 1859(I) vi. c.2469 Report of the Commissioners appointed to inquire into the best means of Manning the Navy together with Minutes of Evidence and Appendix.
- 1860 xiii. 530 Select Committee on Merchant Shipping.
- 1862 liv. 2928 Reports from H.M. Consuls on Shipping.
- 1870 xxv. c203,p835 Report of the Committee on the Higher Education of Naval Officers.
- 1872 xxv. 530 Commission into Scientific Instruction and Advancement of Science. (Devonshire Commission.)
- 1874 xxii. c884. ibid.
c1087
c958
- 1875 xxviii. c1279, ibid.
c1297-8
c1363
- 1873 xxxvi. 315 Royal Commission on Unseaworthy Ships Preliminary Report.
- 1874 xxxiv. c1027 ibid. Final Report.
- 1878 xvi. 205 Report from the Select Committee on the Seaman's Bill
- 1880 xi. 305 Session 2. Report from the Select Committee on Merchant Shipping with the proceedings of the Committee, Minute of Evidence, Appendix and Index.
- 1884 xxix-xxxi-(I) Report of the Commissioners on Technical Education (Samuelson).

- 1884 xiv. Report of the Reformatory and Industrial Schools Commissioners together with Minutes of Evidence, Appendices, Volume 1 (c.3876). Volume 2 (c.3876-1).
- 1884-5 xxxv. Royal Commission into the Loss of Life at Sea. (First Report and Minutes).
- 1887 xliii. c.5227 Final Report of the Royal Commission on the Loss of Life at Sea with Minutes of Evidence, Appendices and Digest of Evidence.
- 1895 xliii-ix. Royal Commission on Secondary Education
c.7862 (Bryce Commission).
- 1896 xiii, 406. Special Report from Joint Committee of Both Houses on the Merchant Shipping Bill.
- 1896 xl. c.8127 Report of the Committee appointed by the Board of Trade to Inquire into the Manning of British Merchant Ships. Vol.1.
- 1896 xli. ibid. Names of Witnesses, Digest and Index of Evidence.
- 1896 xlv.I. c.8204 Report of the Departmental Committee on Reformatory and Industrial Schools.
- 1897 xlii. c.8290 ibid, continued. Evidence and Index
- 1897 xi, 209 Merchant Shipping (Undermanning) Bill: Report from the Standing Committee on Trade.
- 1906 lxx. 493 The Extension of the New Scheme of
cd.2841 Training for Officers of the Navy.
- 1907 lxxv.167. Departmental Committee on the Training
cd.3722 of British Boy Seamen.

- 1850 iv. 55, Bill for improving the condition of
248. masters, mates and seamen and maintaining
discipline in the Merchant Service.
- 1850 iv. 279 Bill for Regulating the Merchant
Seamen's Fund.
- 1851 iv. 462 Bill to Amend the Mercantile Marine
Act 1850.
- 1854 iv. 35,125, Bill to Amend and Consolidate Acts
150,252. Relating to Merchant Shipping.
- 1854 iv. 36,168. Bill to Repeal the Merchant Shipping Act.
- 1880 151, Session Bill to Amend the law relating to the
2 conditions of service of Merchant Seamen.
- 1892 iv. 109 Bill to Amend the law relating to
provisions supplied to seamen.
- 1893-4 v. 217, Bill to Amend the Merchant Shipping
218 Act 1864.
- 1893-4 v. 446 A Bill to Consolidate Enactments relating
to Merchant Shipping (56 & 57 Vict.)
- 1897 v. 135 Bill to Amend the Merchant Shipping Act
1894.
- 1897 v. 149 A Bill to Amend the Merchant Shipping
Act. 1894, with respect to the power of
detention for undermanning.
- 1897 v. 250. A Bill to allow for detaining ships
unsafe due to undermanning.
- 1898 v. 117 Bill to Amend the Merchant Shipping
Act. 1894.
- 1899 vi. 158 Bill to Amend the Merchant Shipping
Act 1894, in respect of Rating Certi-
ficates of Competency and Service.

- 1902 iii. 49 Bill to Amend the Merchant Shipping Act.
- 1905 iii. 80 Bill to Amend the Merchant Shipping Acts.
1894-1900.
- 1911 iii. 735 Bill to require Home Trade cargo ships
to be provided with duly certificated
officers.
- 1914 viii. 666,
 380. Merchant Shipping Bill. Report from the
Standing Committee.
- 1914 iv. 59,
 302, Bill to amend the law relating to
examinations for certificates of
competency.

iii) Correspondence and Returns.

- 1847 lx. 526 Copies of Instructions given to the
Boards appointed for the examinations
of masters and mates of merchant ships
and vessels.
- 1847 lx. 513 Abstract from Registrar General of
Shipping showing number of boys
apprenticed from 1 January 1846 -
31 December 1846.
- 1847-8 lix. 913 Papers Relating to the Commercial Marine -
Parts. 1 & 2.
- 1850 liii. 319 Return of Masters and Mates in the
Merchant Service who have voluntarily
passed an examination and obtained a
certificate of qualification under the
regulations issued by the Board of Trade,
stating the number of each class, the
port.
- 1852-3 lx. 1628 Copies of correspondence between the
Board of Treasury and the Board of
Admiralty on the subject of manning the
Royal Navy.

- 1854 lx. 233 Return of the number of apprentices in the Merchant Service.
- 1866 lxxv. 170 Return of the number of apprentices bound to mariners in the Merchant Service in each year from 1831-1860.
- 1867 liii. 141 Number of foreign seamen employed in British ships registered in the United Kingdom for the years 1858-1866, and the number of apprentices bonded and registered in British ships 1858-1866.
- 1867 lxiii. 266 Memorials or communications recently addressed to the Board of Trade on the subject of disasters at sea.
- 1867 lxiii. 125 Application made to the Board of Trade on the subject of accommodation of seamen in merchant ships.
- 1871 lxi. 30 Return of British and foreign seamen employed on British ships registered in the United Kingdom and the Number of apprentices.
- 1872 liii. 630 Replies by certain of H.M. Consuls to a circular letter from the Board of Trade containing suggestions with regard to Merchant Shipping.
- 1875 lxviii. 167 Return of the number and nationality of persons who not being British subjects at the time of their examination have obtained officer's certificates in the British Merchant Marine since 1860.
- 1875 lxviii. 459 Return of the names of those certified Masters of the Mercantile Marine have passed the Board of Trade examination in steam and compass deviation.

- 1875 lxviii. 132 Copies of memoranda upon recent improvements effected by the direction of the Board of Trade in the working arrangement of mercantile marine officers.
- 1878-9 lxiv. 340 Paper relating to colour blindness in candidates for masters' and mates' certificates.
- 1890 lxvi.(c6153) Returns relating to colour blindness.
- 1890-1 lxiii. 294 Return respecting reformatory and Industrial School Ships 1886-90 inc.
- 1894 lxix. 328 Foreign Merchant Navies (Educational standard of officers).
- 1895 ciii. 505 Reports from H.M. Representatives abroad on the educational standards for the Merchant Navy.
(c7711)
- 1896 lxxv. 316 Correspondence between the Board of Trade and representative societies of shipowners and engineers and others upon the subject of apprenticeship for applicants for Board of Trade Certificates of competency as Marine Engineers.
- 1896 lxviii. 507 Return respecting reformatory and Industrial School ships from 1891-5 inc.
- 1899 lxxxvii(c9248) Report on Sight Tests used in the Mercantile Marine for the year 1898.
- 1899 lxxxvii. 267 Return showing all suspensions and cancellations of certificates of masters, mates or engineers ordered by the Board of Trade since the year 1887.

- 1900 lxxvii., 255 Returns of correspondence between Board of Trade and the representative societies of shipowners and engineers upon the subject of apprenticeship (in continuance of No.316 - 1896.)
- 1900 lxxvii. 147 Return showing for the last completed year the number of successful and unsuccessful candidates for masters and mates certificates of competency in the United Kingdom.
- 1901 lxvii.
(Table 25) Apprentices. Number of indentures enrolled and cancelled.
- 1902 xcii. 218 Returns of the numbers, ages, ratings and nationalities employed as at 31 March 1901.
- 1902 xcii.(cd 1140) Report on Sight Tests.
- 1903 lxii.(cd 1580) Sight Tests for the year 1902.
- 1903 lxii.(cd 1690) Returns showing the lives lost by wreck, drowning or other accident in British Merchant Shipping registered in the United Kingdom.
- 1903 lxii.(cd 1716) Shipping casualties (1901-2).
- 1911 lxii. 19
(cd 5766) Mercantile Marine. Issue of certificates of competency since 1886.
- 1912-3 lxxvi. 15
(cd 6217) Return of the number of certificates of competency of each grade issued since 1886.

b. Pamphlets (by repository)

The following were consulted through the British Museum Lending Division, Boston Spa.

M. F. F. Berkeley: Reserve for the Navy Walker, Gloucester, 1861.

C. Biden: The Present Condition of the Merchant Service; with suggestion for the Amendment thereof by the Legislative enactment of a Maritime Code of Laws Richardson, 1835.
(Glasgow University Library).

H. Childers: The Naval Power of England Longman, Green and Co., 1874,

T. Clarkson: The Grievance of our Mercantile Seamen, a national and crying evil. Longman, 1845.
(Cambridge University)

W. Cliff: Incompetency of British compared to foreign sailors Liverpool, 1890.

F. W. Grey: The Naval Expenditure from 1860-6 and its results Ridgway, 1867.

On the Organisation of the Navy. Ridgway, 1860.

Suggestions for improving the character of our merchant seamen Stanford, 1873.

J. Malley: Our Merchant Ships and Sailors Vacher, 1870.

W. F. Martin: Memoranda on Naval Reserves Ridgway, 1860.

C. McL. McHardy: British Seamen, Boy Seamen and Light Dues Navy League, 1899.

S. C. Sage: The Training of Young Marine Engineers Transactions of the Institute of Marine Engineers, 1893.

University of Warwick Library.

W. Tallack: The Industrial and Reformatory Treatment of
Criminals from Friend's Examiner London, undated.

J. B. Thomson: The Hereditary Nature of Crime 1870.

A. A. Croll: Prison Discipline with some suggestions for
its improvement 1870.

Social Science Congress: What are the best means of
Improving the Professional and Social Conditions of
Seamen and restoring discipline at sea 1876.

c. Periodic Publications.

Proceedings of the Royal Geographical Society New Series
Vol. IV. 1882, Stanford.

Shipmasters' Society London Course of Papers Paper 7, 1890:
Paper 11, 1891: Paper 14, 1891: Papers 17, 20, 21 and
23, 1892: Paper 26, 1893: Paper 28, 1893: Paper 32,
1894: Papers 34, 35, 1894: Paper 49 and 52, 1897.
Paper 55, 1898.

Transactions of the North East Coast Institution of Engineers
and Shipbuilders 1884-1915.

d. Books.

J. Hanway: Proposal for County Naval Free Schools 1783.

J. Hanway: Abstract of the Proposal for County Naval Free
Schools 1783.

4. Printed Local Records (by repository)

Blyth: Central Library

Blyth Mechanics, 38th Annual Report 1886.

39th Annual Report 1887.

42nd Annual Report 1890.

Blyth: Wellesley Nautical Community School.

Second to Fifth Annual Report of the 'Wellesley Training Ship Institution 1870-3, Newcastle.

Seventh to Twenty Second Annual Reports 1875-90.

Twenty fifth and Twenty sixth Annual Reports 1893-4.

Thirty first, thirty fourth Annual Reports 1899, 1902.

Forty fifth and forty sixth Annual Reports 1912, 1914.

Forty eighth Annual Report. 1916.

H. Baynham: Illustrated Guide to the Training Ship 'Wellesley'
South Shields Gazette, 1907.

Book of Press Cuttings various dates, 1884-1950. (2 volumes).

Brochure on the Visit of H.R.H. Prince Philip to the 'Wellesley'
School. 23 June 1960.

J. Hall: Letters to the Editor. The Times, 20 November 1868
and 12 January 1869.

Paper on Training Ships. Social Science Congress, Newcastle
upon Tyne, 1870.

Rules and Regulations for the Management of the Tyne Training
Ship 'Wellesley' Newcastle, 16 June 1868.

Rules and Regulations for the Management of the Tyne

Training ship 'Wellesley' North Shields and Green's
Home, South Shields Newcastle, 1892.

Training Ship 'Wellesley' Second Christmas Booklet 1916.

'Wellesley' Nautical School. Souvenir of the Visit of H.R.H.
Prince George 6 October 1933. Second Edition, 1935.

'Wellesley' Training Ship - Reports on the Vessel June
1900-1901.

Durham: County Archives.

Lindsay and the Shipping Interest Acc.No.NCB/I/X/29 Vint and Carr.

Mr. Purves' Academy. Prospectus 1859. Acc No.D/X.161/1.3

Edinburgh: Central Library

Leith School Board Handbook 1886.

Edinburgh School Board Directory 1891, 1892, and 1896.

Newcastle: Central Library

Durham College of Physical Science. Prospectus Newcastle,
1871-2.

Durham University College of Physical Science. Prospectus
1875-6. Bound in Local Tracts. p.64.

University of Durham College of Science 1877-8 in Local
Tracts 21.

University of Durham Calendars 1883-1903.

University of Durham Building Fund Special Appeal 1938.

Local Biographies. Vol.3. Science and Art undated.

Robert Spence Watson: Industrial Schools 1867. Bound Pamphlet.
Education in Newcastle. 1884. Acc.No.1042.

Wellesley Training Ship Twenty third and Twenty fourth
Annual Reports. 1891-2.

Newcastle: University Education Library

Report of the Inspectors of Reformatory and Industrial Schools
1858-1903, H.M.S.O.

North Shields: Local History Centre.

W. H. Thorn: File.

Northumberland: Archives and Record Office.

Northumberland Technical Education Committee Report.1891-
1901 Acc.No.CC/CM/TE 11-12.

South Shields: Borough Solicitor's Department.

Abstract of the Treasurer's Accounts for the Marine School,
South Shields, 1860 - June 1870.

A. Flagg: Marine School of South Shields. Draft Plan,
21 January 1903.

Marine School Prospectus South Shields, 1896.

South Shields: Central Library, Local History Collection
Handbill collection.

Copy of the Charter of James II to Trinity House, Newcastle
1 July 1687. Pigg, 1857.

Public Library School of Science and Art Prospectus 1889 -
90.

South Shields Marine and Technical College, Press Cutting
Book. 1 Volume.

South Shields Master Mariners' Annuity Society Centenary

Dinner Pamphlet. 28 April 1939.

J. Ballingall: On the true causes of numerous shipwrecks and loss of life at sea: An Address Fordyce, South Shields, 1835.

J. Hall: Speech on Seaman's Life Insurance 14 March 1881.

Port of Newcastle Association for the Preservation of Life from Shipwreck. 1831, 1835 Reports.

South Shields: Marine and Technical College.

Conveyance of the Site and Statutes of the Marine School

South Shields Shields Gazette Reprint, undated.

R. E. Hooppell: Newspaper Cuttings Scrapbook, 1861-71.

Newspaper Cuttings Collection - loose, various dates.

South Shields Marine and Technical College Centenary Brochure.

1961.

South Shields Marine and Technical College Official Opening

1964.

Sunderland: Museum and Library.

Endowed Charities of Durham, Gateshead and Sunderland . Vol.2.

H.M.S.O. 1904.

C. Carbult: Sunderland 1819

Corporation of Sunderland Minutes Printed Volumes, 1896 -

1904.

List of Shipwrecks involving Sunderland Ships, 1840-9, 1850-9, 1860-9, 1870-9 (The final decade's statistics are hand-written on Index Cards).

Sunderland Antiquarian Society. Antiquities of Sunderland
Vol. IV, 1903.

Sunderland Boys' Orphan Asylum. Reports and Accounts 1939.

Sunderland School Board. Clerk's Report Vint and Carr,
Sunderland, 1873.

Sunderland: Polytechnic, Langholm Towers

Sunderland Technical College Prospectus of the Evening, Day
and Special Saturday Classes for Teachers Opening
session, 1901-2.

The Technical College, Sunderland, Prospectus of Day Classes
1902-3.

The Technical College, Prospectus of Day Classes 1903-4.

The Technical College, Sunderland, Prospectus of Evening
Classes 1902-3 and 1903-4.

5. Directories and Yearbooks.

a) North East of England.

Alder's Blyth Commercial Directory 1864.

Blyth Pictorial Almanac 1864, 1880, 1883-6, 1889, 1892, 1894, 1903.

Blyth Pictorial Directory 1862, 1865.

Barnes: Directory of Sunderland 1865; 1866-7; 1867-8.

Bulmer: Directory of Northumberland 1887.

Christie's Directory of Newcastle, Shields & Sunderland 1871-2,
1873-4, 1879.

Hagar: Directory of Durham. 1851

Ihler: Directory of Newcastle and Gateshead 1833-4.

Kelly: Directory of Sunderland 1886.

Kelly: Post Office Directory of Northumberland and Durham

1857, 1858, 1873, 1878, 1879, 1890, 1897, 1925.

Directory of Newcastle, Gateshead, North and South

Shields 1883-4.

Directory of South Shields and Jarrow 1885-6.

Mercer and Crook: Directory 1868.

Parson and White: Directory and Gazetteer of the Counties of

Durham and Northumberland 1827, 1828, 1846.

Pigot: Directory of Northumberland 1822, 1855.

Newcastle Commercial Directory 1828-9.

Directory 1834.

Fint and Carr: Directory of Sunderland 1844.

Richardson: Directory of Newcastle and Gateshead 1838, 1839.

Robinson: Penny Illustrated Household Almanac 1880, 1886.

Röbson: Directory of Northumberland 1841.

Slater: Directory of Durham 1864, 1879.

Directory of Newcastle, North and South Shields 1848.

Directory of Sunderland, Newcastle 1848, 1854.

Ward: North of England Directory 1859-60.

Directory of Newcastle, Shields, Sunderland 1850, 1851, 1852 (Supplement), 1853, 1857-8, 1861-2, 1863-4, 1867-8, 1869-70, 1873-4, 1879-80, 1881-2, 1883-4, 1885-6, 1807-8, 1889-90, 1891-2, 1893-4, 1895-6, 1897-8, 1899-1900.

Directory of Newcastle, Gateshead, Shields 1865-6, 1873-4.

Directory of Newcastle, Gateshead, Shields and Jarrow 1875-6.

Directory of Newcastle, Gateshead, Shields and Sunderland

1877-8.

Wards Directory of Newcastle, Gateshead and North and South Shields. 1901 - 1940.

Whellan: Directory of Northumberland 1855.

Topography and Directory of the County Palatine of Durham. 1856, 1865-6, 1894.

White: A General Directory of the town and country of Newcastle, Gateshead and North and South Shields 1846, 1847, 1859.

Williams: Directory of Newcastle, Gateshead, North and South Shields. 1844.

A General Directory of Newcastle and Gateshead 1824.

Sunderland Year Books. 1903, 1904, 1913.

b) Edinburgh and Leith

Edinburgh and Leith P.O. Directory 1821-2, 1822-3, 1830-1, and each year 1839-40 until 1901-2. 1910-11, 1914-15, 1915-16, 1916-17, 1917-18, 1918-19.

c) Kingston upon Hull

Atkinson: Directory of Hull 1888.

Baines: Yorkshire. 1825, 1827.

Bromby: Almanac. 1880.

Brown: Directory of Hull 1897.

Combined Illustrated and Census Almanac 1882.

Buchanan: Directory of Hull 1872-3.

Butcher: Directory of Hull 1874-5.

Cook: Directory of Hull 1895, 1899.

Cragg's Directory of Hull 1835.

New Yorkshire and Lincolnshire Almanac. 1836.

Harland's Almanac. 1874.

Hull, Yorkshire, Lincolnshire Almanac and Diary 1874.

Hull Almanac 1864.

Hull Record Almanac 1884, 1897-1902.

Kelly: North and East Riding of Yorkshire 1857, 1861,
1872, 1876, 1885, 1889, 1892, 1893, 1896, 1899.
1900, 1901, 1908, 1915, 1916, 1929, 1930, 1933.

P.O. Directory 1861, 1863, 1872, 1930.

Kingston Calendar 1889, 1890-1891.

Martindale: Almanac 1891.

Melville: Directory and Gazetteer 1855.

Noble: Directory of Hull 1838.

Plaxton's Almanac and Third Port Diary 1901.

Pigot: Hull Directory 1834.

Purdon: Directory 1839.

Slater: Directory of North Yorkshire 1854.

White: Directory 1826, 1838, 1840, 1842, 1846, 1848, 1851,
1858, 1859, 1867, 1882, 1895.

Hull and District 1831.

Yorkshire 1837-8.

Hull Year Book 1876.

6. Newspapers.

Blyth Biweekly News

1894, September 14 and 25 .

1896, September 25 .

1897, September 28 .

Gateshead Observer 1842, December 19.

Hull Daily Mail Each September and October from 1890 to 1902.

Newcastle Daily Journal Each September and October 1889-1902.

Shields Daily News

1871, January 3.	1896, July 25.
1873, July 14.	1897, Feb. 5, April 2, Sept. 27.
1889, January 24.	1898, August 6.
1894, September 12.	1899, Aug. 5, December 28.

Shields Weekly News 1934, June 16.

Shields Gazette and Daily Telegraph.

1854, Sept. 30	1873, Jan. 15, 27.
1859, July 8,12,15,16,18.	" Feb. 3.
1860, Jan. 18, July 12.	" Oct. 2, 27.
1861, Jan. 5,7,12,18.	" Nov. 7.
" Feb. 16.	1874, Jan. 10.
" Mar. 25.	" Feb. 6, 20.
" Oct. 29.	" July 30.
" Nov. 1.	" Sept. 26.
1868, Jan. 18, 25.	" Oct. 26.
" Mar. 1.	" Nov. 9.
1869, Jan. 30.	1875, Jan. 1.
" Feb. 17.	" Aug. 21, 25.
" Oct. 6,14, 18.	" Oct. 12, Nov.8,10,11,12.
1872, Nov.2,8,15,16,25.	1876, Jan, 1, 17-19.
" Dec. 2, 9, 16, 27.	

A survey was carried out by the author of the winter months in each year, from October 1876 until January 1886, to ascertain information about the Marine School of South shields.

1886, Nov. 10.	1887, Nov. 7.
1887, Jan. 7.	" Dec. 12, 16.
" Oct. 31.	

A second survey of the months September to April each year from 1889 - 1902 was carried out to discover details of the evening classes provided in the town and lectures held under the auspices of the Marine Engineers' Union.

1904, Dec. 28.

1912, Dec. 17.

1934, June 16.

Sunday Sun 1986, Nov. 30.

Sunderland Weekly Echo 1881, July 15, 1884, May 16.

Sunderland Weekly Echo and Times

Aug.-Dec, 1885. Surveyed for information on the Sunderland Orphan Asylum.

1895, May 24, Aug. 13, Sept. 20, Oct. 18.

1896, Sept. 19, Oct. 23.

Sunderland Weekly Times 1880, Feb 13, July 9, Nov. 12,

Sunderland Herald and Daily Post 1894, 1895, 1897. The first twenty one days of each month surveyed for information about the Sunderland Orphan Asylum.

Sunderland and Durham County Herald. - Weekly. 1861, Dec.18.

Sunderland Daily Echo 1874 - April 1903. First three weeks of each month surveyed for information on the Sunderland Orphan Asylum.

1917, Nov. 27.

1920, Feb. 12.

1931, June 12.

1965, Dec. 3.

1971, Mar. 8.

Sunderland Herald 1837, Sept. 9, Nov. 25, Dec. 3.
1853, July 29.
1854, 1876.
Sunderland Times 1869-71, 1873-6, 1885, 1887-8.
Sunderland News 1853-5.

The above three newspapers have been indexed by volunteers. The Sunderland Orphan Asylum is one of the categories, but the index covers only the period up to 1871 in detail. It was then necessary to survey the papers for each month, as for the Sunderland Daily Echo.

B. Secondary Sources.

1. General Reference Works.

Concise Dictionary of National Biography O.U.P., 1969.

Dictionary of National Biography Volumes VII and LXIII.

Smith Elder, 1886.

General Alphabetical Index to the Bills, Reports, Estimates, Accounts and Papers Printed by Order of the House of Commons 1880-9 H.M.S.O., 1889.

Irish University Press Series of British Parliamentary Papers.

General Index to Bills, Reports, Estimates, Accounts and Papers Printed by Order of the House of Commons and to Papers

Presented by Command. 1870-1878/9 Shannon, Ireland, 1968.

Irish University Press Series of British Parliamentary Papers

General Index to Bills, Reports etc. 1801-1852 Shannon,

Ireland, 1968.

Irish University Press Series of British Parliamentary Papers

General Index. 1852-9 Shannon, Ireland, 1968.

General Index to the Accounts and Papers, Reports of Commissioners. Printed by Order of the House of Commons
H.M.S.O., 1938.

Irish University Press of British Parliamentary Papers.
General Index to Reports of Select Committees. 1801 - 52
Shannon, Ireland, 1968.

Irish University Press Checklist of British Parliamentary Papers 1801 - 99 Shannon, Ireland, 1972.

General Index to the Bills, Reports and Papers Printed by Order of the House of Commons and the Reports and Papers Presented by Command 1900. - 48/9 H.M.S.O., 1968.

P. and G. Ford. A Breviate of Parliamentary Papers 1900-16
Blackwell, Oxford, 1957.

P and G. Ford. Select List of British Parliamentary Papers 1837 - 99 Blackwell, Oxford, 1953.

2. Monographs.

a) Autobiographies and Biographies.

Anon. J. Havelock Wilson, Daylight on his career
Collison, 1894.

Anon. The Life and Times of Martin Douglas, Sunderland
Keelman R. Firth, Sunderland, 1848.

- F. T. Bullen. The Log of a Sea Waif Smith, Elder and Co.,
1899.
- S. Childers (ed). A Mariner of England, an account of the
Career of William Richardson 1780-1812 J.Murray, 1908.
- R. H. Dana.jun. Two Years Before the Mast or A Sailor's
Life at Sea Hutchinson, undated (1841).
- A. Eames. Shipmaster: The Life and Letters of Captain Robert
Thomas (1843-1903) Gwynedd Archives Services, 1980.
- C. Fenton. The Sea Apprentice Philip Allen, 1934.
- W. Geary. Autobiography of Capt. W. Geary Greenwood, 1924.
- G. Haswell. The Maister Walter Scott, 1895.
- w. Hayward. James Hall of Tynemouth. Printed for private
circulation by Hazell, Watson and Viney. Two Volumes.1896.
- F. C. Lea. Sir Joseph Whitworth Longman Green and Co. 1946.
- A. B. Lubbock. Round the Horn before the Mast Murray,
1902 (1946).
- Old Tar. A Voyage in the Coal Trade Leamouth, South Shields,
undated. One copy dated 1877 in South Shields Library
catalogue.
- C. Protheroe. Life in the Mercantile Service Bodley Head,
1903.
- W. W. Tagg. A Vagrant's Career Whitecross and Yorke, 1891.
- Sir Walter Runciman. Before the Mast-and After T. Fisher
Unwin, 1924.

- D. Wallace. A Memoir of Duncan Wallace, being a narrative of the voyages, shipwrecks, travels and battles by sea and by land during a period of eighty three years. Dictated by himself and written and collated by Thomas Kirkup Bell, Newcastle, 1862.
- A. Weston. My Life Among the Blue Jackets Nisbet, 1911.
- J. D. Whidden. Ocean Life in the Old Sailing Ship Days Little, Brown and Co., Boston, 1908.
- J. Wilson. Memoirs of a Labour Leader Fisher Unwin, 1910.
- J. Havelock Wilson. My Stormy Voyage through Life Co-operative Society, 1925.

b) Nautical Books.

T. L. Ainsley.

Nautical Almanac 1900.

A Guidebook to the Local Marine Board Examinations
South Shields, 1876. 3rd Edition, 1883.

A Guidebook to the Local Marine Board Examinations-Extra
South Shields, 1883. 7 Edition, 1896.

A supplement to Ainsley's Engineer's Manual undated.

Engineer's Manual of the Local Marine Board Examinations
1892. 25th Edition, 1898.

Engineer's Manual 15th Ed. 1879; 24th Ed. 1892, 26th
Ed. 1909.

Examiner in Seamanship 1877.

Extra Master's Guidebook 1867.

Magnetism and Deviation of the Compass on Iron Ships
1874.

Compass Correction 1874.

New Guide to the Board of Trade Examination 1905.

An Old Hand:

The Engine Room Ainsley, 1877.

Anon:

Marine Engineering Potts, North Shields, undated.

W. C. Bergen:

Guidebook to the Local Marine Board Examinations

Blyth, 1881.

Navigation and Nautical Astronomy Laurie, London, 1872
and Bergen, Blyth, 1872.

Practice and Theory of Navigation and Nautical Astronomy
3rd Edition, Bergen, Blyth, 1874.

Seamanship 1899.

Spherical Tables and Diagrams Blyth, 1857.

J. Brown:

Mercantile Navy List and Almanac Bradbury and Evans,
1859.

S. D. Cole:

Shipmaster's Handbook to the Merchant Shipping Act.

Brown, Son and Ferguson, Glasgow, 1927.

R. H. Dana:

The Seaman's Friend. (1851). Scholars' Facsimile and
Reprints. New York, 1979 reprint.

J. A. Hamilton:

Lee's Laws of British Shipping and of Marine Insurance

Philip and Son, 1930.

J. Harper:

A Treatise on the Practice of Seamanship and Rigging

South Shields, 1852.

R. Hooppell:

An Introduction to the Practice of Navigation and Nautical

Astronomy Potts, 1871.

S. T. S. Lecky:

Wrinkles in Practical Navigation Philip and Son,

1892.

T. Marwood:

North of England Maritime Directory 1848-9, 1852, 1854,

1856.

C. S. Mence:

The Sea - a guide Spottiswoode 1914.

J. Merrifield:

A Treatise on Navigation Longman and Green, undated.

Magnetism and Deviation of the Compass 1872.

T. Reed:

Handbook to the Local Marine Board Examinations (ed.

W. T. Thorn) Reed, Sunderland, 1882.

Guidebook Reed, Sunderland, 1903.

The Key to Reed's New Guidebook (ed. J. J. Stiles)

Reed, Sunderland, 1864.

New Guide to the Local Marine Board Examinations Reed,
Sunderland, 1891. (1903 Edition edited by C. Swainston).

Tables of Distance 17th Edition.

Tide Tables 1844, 1845, 1847, 1849, 1850-2, 1852-3,

1856-68, 1870-1888, 1890, 1901-4, Reed, Sunderland.

Reid and Son:

Nautical Almanac 1889-1892, Newcastle.

T. Saunderson:

Hull Tide Tables 1833.

A. N. Somerscale:

Mechanical and Marine Engineering Science Munro,

Glasgow, 1909.

T. Southern (ed):

Bergens Marine Engineer and Guidebook Potts, undated.

A. Stoneham:

Mercantile Navy List and Maritime Directory 1876-80.

Mitchell, London.

F. H. Thorn:

Engineers' Diagram Reed, Sunderland, 1910(?)

Furnbull's Shipping Register 1878.

Rules and Conditions of the Coal Trade Association South

Shields, 1847-8, 1851.

Eligible Cargo Insurance South Shields, 1833-6, 1840.

Equitable Cargo Freight and Outfit Insurance South Shields,

1838.

North of England Marine Assurance 1836.

North British and Mercantile Insurance Co. Centenary 1907.

Maritime and Mercantile Policy 1839 - 40, 1847-8.

South Shields Al. Freight and Outfit Insurance Association
Rules 1856.

South Shields Premium Association 1834, 1837.

Sun Association 1840.

British Association 1834.

Unanimous Assurance Policy 1833, 1834, 1838, 1841-2, 1843,
1852, 1853, 1856.

Warranties and Rules of the Eligible Association North
Shields, 1834.

General Premium Association Policy 1834.

Liberal Premium Mutual Assurance Policy 1834.

c. General Books Published before 1914.

Anon:

John Readhead and Son Ltd. Mawson, South Shields, 1948.

Short Bros. Ltd. 1850-1950 Jordison, Middlesbrough, 1950.

A. Baharie:

Tales and Sketches of Sunderland Thompson, Sunderland, 1887.

B. Blackmore:

The British Mercantile Marine Griffin, 1897.

T. Brassey:

British Seamen, as described in recent Parliamentary and
Official Documents Longman Green & Co., 1877.

F. T. Bullen:

The Men of the Merchant Service Smith Elder, 1900.

R. J. Charlton:

History of Newcastle upon Tyne Hill, 1885, 1950 reprint.

E. K. Chatterton:

Ships and Ways of other Days Sidgwick & Jackson, 1913.

R. J. Cornwall-Jones:

The British Merchant Service Sampson Low, Marston & Co.,
1898.

H. H. E. Craster: History of Northumberland Reid, Newcastle, 1909

R. Davis:

The Rise of English Shipping in the Seventeenth and
Eighteenth Centuries MacMillan, 1962.

W. Fordyce: History and Antiquities of the County Palatine
of Durham Volume 7. (Graingerised version embellished
by G. Nicholson). undated.

ibid 2 Volumes. Fullarton. Newcastle, 1857.

J. T. Fowler:

Durham University Robinson & Co., 1904.

G. B. Hodgson:

The Borough of South Shields Reid, South Shields, 1903.

The History of South Shields Reid, South Shields, 1924.

W. A. Lawson:

Tyneside Celebrities Published by the author, 1873.

W. S. Lindsay:

History of Merchant Shipping & Ancient Commerce 4
Volumes. Sampson Low, Marston and Searle. 1876.

Manning the Royal Navy and the Mercantile Marine
Pewtress, 1877.

Liverpool Steam Shipowners Association:

The Manning Question. 1912.

C. Masterman and C. B. Everett:

The Masterman and Heath Family Pedigrees Dodds, 1914.

C. J. Montague:

Sixty Years in Waifdom or the Ragged School Movement in English History Murray, 1904.

J. Patterson:

A Guide to Sunderland Hill, Sunderland, 1891.

A Guide to Sunderland and environs 3rd Edition, Hill, Sunderland, 1897.

S. Plimsoll:

Our Seamen: An Appeal Virtue and Co., 1873, also 1979 reprint.

T. Potts:

Sunderland Williams and Co., 1892.

C. N. Robinson:

The British Tar in Fact and Fiction Harper, 1909.

w. Runciman, sen:

Windjammers and Sea Tramps Walter Scott, 1905.

T. Salmon:

South Shields: Its past, present and future Hewison 1856, Revised Edition 1866.

R. Semmes:

Service Afloat Sampson Low, Marston, Searle, 1887.

J. Wallace:

The History of Blyth Robinson, Blyth, 2nd Edition, 1869.

R. Welford:

Men of Mark T'wixt Tyne and Tweed Vol.2. Walter Scott, London and Newcastle, 1895.

d) General Books Published after 1914.

Anon:

The Story of our School, The Royal Grammar School,
Newcastle Brodie and Law, 1924.

R. Armstrong:

The Merchant Men Ernest Bean, 1961.

C. Baldwin:

The History and Development of the Port of Blyth Reid,
Newcastle, 1929.

K. Bates:

Clockmakers of Northumberland and Durham Pendulum, 1980.

D. Bean:

Thomas Reed- the first two hundred years Reed, 1982.

E. M. Bettenson:

The University of Newcastle upon Tyne University of
Newcastle, 1971.

J. W. Black:

'Wor Canny Toon' Jennings, South Shields, 1925.

D. S. L. Cardwell:

Organisation of Science in England Heinemann, 1957.

E. K. Chatterton:

The Mercantile Marine Heinemann, 1923.

The Old East Indiamen Rich and Cowan, 1933.

T. G. Cook (ed):

Local Studies and the History of Education Methuen, 1972.

T. Corfe:

History of Sunderland Graham, Newcastle, 1973.

S. F. Cotgrove:

Technical Education and Social Change Allen and Unwin,
1958.

E. Cotton:(ed. by C. Fawcett)

East Indiamen Batchworth, 1949.

A. G. Course:

Painted Ports Hollis and Carter, 1961.

The Merchant Navy: a social history Muller, 1963.

G. S. Emmerson:

Engineering Education: A social History David & Charles,
Newton Abbot, 1973.

F. Gardner:

The Lost Elementary Schools of Victorian England

Croom Helm, 1984.

J. C. Healey:

Foc's'le and Glory Hole Merchant Marine Publication
Service, New York, 1936.

J. F. C. Harrison:

Learning and Living 1790-1960 Routledge & Kegan Paul,
1961.

F. E. Huggett:

The Past, Present and Future of Life and work at Sea
Harrap, 1975.

I. Inkster and J. Morrell:

Metropolis and Province: Science in British Culture
1780-1850 Hutchinson, 1983.

T. Kelly:

A History of Adult Education in Great Britain Liverpool
University Press, 1972.

- R. Lawton(ed):
The Census and Social Structure Cass, 1978.
- D. Leinster-Mackay:
The Rise of the English Preparatory School Falmer, 1984.
- C. Lloyd:
The British Seaman 1200-1860 Collins, 1968.
- P. McCann(ed):
Popular Education and Socialization in the Nineteenth Century Methuen, 1977.
- N. McCord:
North East England Batsford, 1979.
- F. W. D. Manders:
A History of Gateshead Gateshead Corporation, 1973.
- J. S. Marshall:
Leith the Caring Community Edina Press, Edinburgh, 1979.
- J. Nasefield:
The Conway Heinemann, 1933.
- J. Mason: The History of Trinity House of Leith McKenzie Vincent, Glasgow, 1958.
- M. Mason, B. Greenhill and R. Craig:
The British Seafarer Hutchinson/ B.B.C., 1980 .
- D. Master:
The Plimsoll Mark Cassell, 1955.
- P. Mathias & A.W.H. Pearsall:
Shipping: A Survey of Historical Records David & Charles, Newton Abbot, 1971.
- W. E. May:
A History of Marine Navigation Foulis, Henley on Thames, 1973.

H. P. Mead:

Trinity House Sampson Low, Marston, 1947.

E. C. Millington:

Seamen in the making Potter, 1935.

W. C. Mitchell:

History of Sunderland Morton, Manchester, 1919.

D. Moir:

The Birth and History of Trinity House, Newcastle
McKenzie Vincent, Glasgow, 1958.

H. Moyse-Bartlett:

A History of the Merchant Service Harrap. 1937.

P. G. Parkhurst: Ships of Peace Volume 1. Parkhurst,
New Malden, 1962.

G. Penn:

Snotty: The story of a Midshipman Hollis & Carter, 1957.

G. Peters:

The Plimsoll Line Rose, 1975.

L. H. Powell: The Shipping Federation 1950.

J. Roach:

Public Examinations in England Cambridge University Press,
1976.

G. W. Roderick & M. D. Stephens:

Scientific and Technical Education in 19th Century
England David & Charles, Newton Abbot, 1972.

W. Runciman:

Collier Brigs and their Sailors Conway, 1926.

W. Rutherford:

The Men who Built the Mauretania Hillside, 1934.

Shipbuilding and Ships Worshipful Company of Shipwrights, 1947.

R. Simper:

North East Sail David and Charles, Newton Abbot, 1977.

Britain's Maritime Heritage David and Charles, Newton Abbot, 1982.

J. Smith and T. S. Holden:

Where Ships are Born. Sunderland 1346-1946 Reed, Sunderland, 1946.

F. H. Stafford:

The History of the 'Worcester' Warne, 1929.

D. Steele:

The Story of the Worcester Harrap, 1962.

A. Storey:

Trinity House of Kingston-upon-Hull Trinity House, Kingston upon Hull, 1967.

W. R. Sullivan:

Blyth in the Eighteenth Century Oriel, Newcastle, 1971.

H. A. Underhill:

Sail Training and Cadet Ships Brown, Son and Ferguson, 1956.

D. Vincent:

Bread, Knowledge and Freedom Europa, 1981.

F. W. Wallace:

Wooden Ships and Iron Men White Lion, (1924) 1973.

D. Wardle:

English Popular Education, 1780-1970 C.U.P., Cambridge, 1970.

D. Warner:

The British Navy Purnell, 1975.

C. E. Whiting:

The University of Durham Sheldon, 1932.

S. Wiseman(ed.):

Examinations and English Education Manchester University
Press, 1961.

3. Pamphlets

Anon:

Trinity House, Newcastle upon Tyne. A Brief Description
and Notes 1983.

B.B.C:

The Onedin Line B.B.C., 1973.

J. Carr:

Sermon (Annual Winterbottom Sermon) Hewison, 1868.

T. B. Graham:

Nineteenth Century Self help in Education-Mutual
Improvement Societies Nottingham University, 1983.

D. Hudson-Barker:

Winterbottom Sermon 20 March 1918, Brown, 1918.

4. Articles.

W. H. G. Armytage:

Some sources for the History of Technical Education.

British Journal of Educational Studies Vol. 1. No.1,

Nov. 1956. Vol. V. No.2, May 1957. Vol VI. No.2, Nov.1957.

J. Bolam:

A School of Navigation. Journal of the Department of
Agriculture and Technical Instruction for Ireland

June 1903. pp.706-14.

E. A. G. Clark:

The Last of the Voluntaryists; the Ragged School Union
in the School Board Era. History of Education Vol. XI

No.1. 1982.

J. Emmerson:

T. M. Winterbottom. University of Durham Medical Gazette.

December 1955.

E. Gray:

Naval Hygiene in the Eighteenth Century. Durham University
Journal Vol. IV. No.3. 1943.

Hansard's:

Parliamentary Debates. 3rd Series. Vol. CCC LIII 1891 and

Vol. CCC LIV. 1891.

G. Jackson:

The Foundation of Trinity House School, Kingston upon
Hull, An Experiment in Marine Education. Durham Research

Review Vol.5. September 1968.

C. Jeans:

The First Statutory Qualifications for Seafarers.

Transport History Vol.6. November 1973. pp.248-67.

D. Jones:

The Industrial School Ship 'Southampton'. Humber Light

September/October 1973.

A. Kennerley:

The Education of Marine Engineers. Marine Engineers Review January 1979.

J. P. Kerr:

Some Sources for the History of Teaching Science.

British Journal of Educational Studies Vol. VII No.2.
May 1959.

Memoir of Thomas Masterman Winterbottom. North and South Shields Gazette undated.

Nautical College. Shipwrecked Mariner Vol.16. 1869. pp.66-7.

South Shields Supplement. Newcastle and Gateshead Chamber of Commerce Monthly Journal Vol. XV. No.176. June 1935.

Nautical Magazine Volumes for 1832 - 1903 inc.

Nautical Magazine Vol. LXXIII pp.310-5. 1904.

Nautical Magazine Vol. LXXXVIII 1912. pp. 149-55.

Nautical Magazine Vol. CLIII. 1943. p.111.

K. J. R. Robson:

Schools of Industry: Their part in the Development of
Technical Education in Hull. Vocational Aspect Vol.V.
No.10. Spring 1953.

Sailors' College. The Fly Sheet 14 November 1873. No.105.

Saint Hilda's Church Magazine South Shields, 1932

F. Salmon:

South Shields and Dr. Winterbottom. Lux November 1892.

Sunderland Antiquarian Society. Antiquities of Sunderland
Vol. IV. 1903.

R. D. Swanston:

Wellesley Nautical School. Approved Schools' Gazette
Dec. 1966. pp.383-6.

D. H. Thomas:

Four Industrial Schools in the North East of England.
Durham County Local History Society Bulletin No. 26.
May 1981.

G. w. Tracey:

The Origin and Growth of Science Instruction in Science
Classes under the Science and Art Department. Durham
Research Review Sept. 1968. Vol. 5.

R. Welford:

Monthly Chronicle of North Country Lore and Legends
November 1891.

J. H. Wilde:

Creation of the Marine Department of the Board of Trade
Journal of Transport History Vol.2. 1956. pp,193-206.

5. Theses

W. G. Hall:

The Provision of Technical Education in Sunderland;
prior to 1908. M.Ed. Durham University, 1964.

A. C. M. Herdman:

Development of Education in Sunderland during the
Nineteenth Century. M.Ed. Durham University, 1935.

C. Jeans:

Critical Study of the Education and Training of Masters
and Mates in British Merchant Shipping. M.Tech. Brunel
University, 1970.

A. Kennerley:

Education of Merchant Seamen in the Nineteenth Century.
M.A. Exeter University, 1978.

O. McGirr:

The British Merchant Seaman. Aspect of his social
setting, occupational hazards and the health and welfare
service available to him. M.D. Sheffield, 1956.

J. Makkenson:

The Development of Higher and Further Education in
Sunderland since 1908. M.Ed. Durham University,
1969.

R. E. Newey:

Government Intervention in the British Merchant Service
in the 19th Century. M.A. University of Exeter, 1970.

A. N. Owen:

The Development of Technical Education in Gateshead from
1836-1922. M.Ed. University of Newcastle, 1975.

T. W. C. Vasey:

The Emergence of Examinations for British Shipmasters
and Mates, 1830-50. Ph.D. Durham University, 1980.

D. M. Waters:

Nautical Education within the National Education System.
M.Sc. University of Wales, Institute of Science and
Technology, 1970.

