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### The Training of the Mercantile Marine

William Allingham Joint Author of "Practical Navigation"

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THE  
TRAINING OF THE MERCANTILE MARINE.

*By WILLIAM ALLINGHAM, Joint Author of "Practical Navigation."*

Tuesday, February 8th, 1898.

Vice-Admiral Sir NATHANIEL BOWDEN-SMITH, K.C.B.,  
in the Chair.

TRAINING of seamen, sailors and firemen, is practically unknown in carrying-craft under the British flag. Anyone is good enough for either class. A man-of-war sailor is trained from youth to manhood. A merchant sailor has not any training worth mentioning. I would strongly recommend a careful perusal of a paper by Captain J. McKirdy, R.N.R., entitled "Our Seamen," which he read at the London Shipmasters' Society in 1890. Having had experience of sail and steam, and being the marine superintendent of a large shipping company, his words are deserving of most serious consideration:—"By far too many are ready-made sailors, or nearly so, before we see them at all. A trip to sea as cattle attendant, stowaway, shilling-a-month man, or as a passenger, is sufficient to give them a start. They hang about the docks as substitutes, in case someone may be short-shipped in a vessel sailing, and jump on board to tender their services for the vacancy. It may be for cook, steward, fireman, or sailor—it makes no difference to them. They have been to sea before, and that is a guarantee they will not be sea-sick. Time presses and the ship must sail, and, as it is better to have a green-hand on board than no hand at all, the bargain is soon struck, and the novice of the morning is transformed into a seaman, fireman, or trimmer, as the case may be. If he behaves himself at all decently on the voyage, he is discharged with V.G. for character, and G. ability; thus, equipped with a discharge, he takes his place among his fellows, and soon feels quite at home in his new career." Is there any cause for surprise that Lord Brassey should refer to such men as an undisciplined rabble? The Royal Navy must depend principally upon youths trained by warship discipline. Good seamen are still found in large liners, and in certain classes of sailing-ships, but the average deck-hand is faithfully described by Captain McKirdy. Once upon a time, the man-of-war sailor was just what the merchant seaman is to-day. Training and the kindly interest of officers of every rank have raised him to an immeasurably higher social plane than his unfortunate brother of the mercantile marine. If anything, the latter has sunk still lower in the slough of

despond as the years passed away down the avenues of time. Another cause which must tell is the almost utter absence of religious services in carrying-craft.

Anyone, I repeat, is deemed good enough for seaman or fireman in the large majority of our merchant-ships. Moreover, the V.G. discharge is often given to inferior men; and, even were other characters given, voyages are so short that a man simply tears up one discharge and falls back on a previous one either of his own or of someone else. Continuous discharges and ratings will not be tolerated by the large majority of ship-managers. Even a suggestion of four years' sea-service being deemed absolutely necessary from an A.B. has been laughed to scorn. This would be an interference with the law of supply and demand. The minority of the Manning Committee was dead against any recommendation to establish a scheme of rating for seamen and firemen, while admitting that it is to the interest of shipowners to employ none but able and competent men. Surely men who have passed proper examinations, as, in the Royal Navy, are more likely to be competent than those picked up haphazard. I cannot believe that any man who has had experience of a British war-ship and proved acceptable to his officers, would ever care to remain in the fore-castle of an ocean tramp. He would be free from disciplinary restraint it is true; but he would not have canteen, library, school, amusements, religious instruction, thorough training, and that interest in the seaman's welfare which is so marked a feature of the Royal Navy. Lord Charles Beresford, addressing the trained cadets of the "Conway," told them that "when they came to command ships they should always think of their men, with whom they must be very just, as well as strict; and, in this way, they would gain the men's respect. They should do what they could to elevate their men, and let them see they were thinking of them and studying their comfort, as well as looking after their discipline and their work." Masters who sneer at the incapacity and immorality of seamen will do well to bear this in mind. Our seamen are untrained, and we cannot expect perfection from men who are kicked from pillar to post. I do not, however, agree with Lord Charles that every merchant sailor should serve a term in the Royal Navy. Evil communications corrupt good manners, and it is to be feared that this wedge of conscription, if driven home, might burst asunder the pleasant ties which now bind officers and men in the Royal Navy. Untrained men are difficult to deal with, and the large majority of our merchant seamen and apprentices are destitute of training. A Liverpool shipowner, Mr. A. Guthrie, at a meeting of the Mersey Missions to Seamen, indicated how great a change can be effected in the condition of sea apprentices even under most unfavourable conditions. The Rev. J. Fell went out to San Francisco, California, and threw his whole soul into the work of stopping the disgraceful desertion of premium apprentices from British ships. In the years prior to Mr. Fell's arrival at the port, eighty apprentices per annum deserted. He has almost stopped this national disgrace. Whoever cares to go into the desertions at San Francisco, California, enlightened by consular reports, will find a sufficient reason for much of the slovenly seamanship and mutinous spirit of the

mén who form the crews of British sailing-ships. Untrained men, such as these, smarting under manifest wrongs, are scarcely fit for British war-ships in the hour of danger.

Training-ships around our coast afford far better training for fore-castle hands than is obtainable at sea. Boys from the "Indefatigable" in the Mersey, the "Wellesley" in the Tyne, and some others of the same class, are deserving of warm praise. Some mistaken persons imagine that the sea is a first-rate place to reclaim vicious youngsters. This is an erroneous impression fraught with disaster. Good conduct is even more essential in the sea-going youngster than in his brother on shore where policemen abound. The "Indefatigable" suffers somewhat in reputation, because she is moored between two reformatories, and the boys' uniforms are similar. Yet, as Captain Hicks, of the "Akbar," once pointed out, English shipowners and masters only require boys with premiums. "I can't combine philanthropy with business" is said to have been the answer made by one shipowner when asked to take a thoroughly-trained youngster from the "Indefatigable." A very great difficulty is experienced in getting "Indefatigable" youngsters to sea. They have to go at low wages, find men getting four times the money although only half as capable, and are thus led to desert. And yet I will back an "Indefatigable" boy, in the higher standard, to beat the fourth-year premium apprentice, except old "Conways" and "Worcesters," both in navigation and seamanship. One has been trained; the other has merely done time. In 1896 there were sixty-seven "Indefatigable" boys who went into the mercantile marine, all in British ships apparently. The report of Captain J. Macnab, R.N.R., examiner in seamanship, is invariably pleasant reading. A premium apprentice, whose parents have paid £50 for him, does not enjoy an appreciable percentage of the advantages afforded by such a ship, either in theory or in practice. Taking twenty-five premium apprentices of any firm, I doubt very much whether two would pass in the first-class advanced stage, and ten in the elementary stage, of Science and Art Navigation. Yet that is not by any means a record for the "Indefatigable." Captain Bremner and his staff may well be proud of the results, for they surpass shore schools working on rather better material.

Stationary training-ships for fore-castle hands around our coast will do more good for the nation by putting all their boys into the mercantile marine. The Royal Navy can very well look after itself. Moreover, I hold that every youngster on such a ship should be trained either for sailor or fireman. Many become bandsmen, tinkers, tailors, and labourers; but not one half follow the sea. Band-boys and all the other classes are better trained on shore. The sea is for the seaman. In 1896 about 760 boys went to sea from the stationary training-ships. They certainly did not go into British merchant-ships; for, according to the recent report of the Registrar-General of Seamen, there is only about one half that number of boys and ordinary seamen under the age of sixteen in British cargo-carriers. Boys from reformatory-ships cannot be compelled to adopt a sea life. There is not any power in those who control refor-

matory and industrial schools to increase the number of boys who go to sea, should the boys or their parents object. Compulsion will not avail us much in the matter of seamen. Boys must hear the sea-shell distinctly murmuring in their ears. For my own part, the fore-castle of to-day, a veritable Tower of Babel, is not likely to retain British-born boys. In some ships the master does not enter it throughout the voyage, and even the apprentices' berth is an unknown land to him. As Commander W. Dawson, R.N., once said in this building, if our seamen are as bad as painted, not they, but the systems of training are at fault. A large number of the more respectable are driven out of certain classes of British merchant-ships, "because some of the services in the mercantile marine are so conducted that it is impossible for self-respecting Englishmen to serve in them, and therefore they find employment elsewhere. Improve the management of crews in the mercantile marine, and respectable men need not be driven out." Where training is absent, there insubordination is almost certain to be found.

The very best combination of theoretical and practical training for officers is afforded to the cadets on board the self-supporting stationary school ships "Worcester" (Captain D. Wilson-Barker, R.N.R.), moored off Greenhithe, and the "Conway" (Captain A. T. Miller, R.N.) in the Mersey. To the endeavours of Mr. W. M. Bullivant is due the conception of a nautical training college for the Thames. He prevailed upon shipowners, the late Mr. Green and others, to assist; the Admiralty lent a ship; and for nearly forty years Mr. Bullivant has endeared himself to hundreds of cadets by his labour of love as honorary secretary. As the Right Hon. T. Milner Gibson once aptly said, "It used to be the idea that a sailor need have but little education, that he had to be a rough and ready man, little refined, having no knowledge of the higher branches of education; but a good hearty constitution, and capable of undergoing great fatigue, and with a brave and gentle heart. But I am prepared to contend that there is no order of men in this country who require so good an education as the class usually designated as sailors." Nearly forty years have elapsed, and, apart from these ships, the training of officers is, comparatively speaking, not one iota better, if we look upon the changed conditions of education on shore. The instruction on board both ships is of the very highest character in everything pertaining to the practice and the theory of nautical matters, in addition to a sound English education. Cadets from these ships are holding important positions in every part of the world.

Under Lord Brassey's scheme, Messrs. Devitt and Moore have three sea-going training-ships for officers, the "Harbinger," "Hesperus," and "Macquarie." These vessels are in the Australian trade, and are well known as excellent of their class. The "Macquarie" has forty midshipmen; the "Hesperus" and the "Harbinger" but twenty-five each. An experienced officer of the Royal Navy conducts the school work. Navigation, nautical astronomy, and practical seamanship are actually taught these youngsters when at sea. In port, nautical surveying is practised. Out of school hours lectures are given in navigation,

electricity, marine engines, ship construction, ambulance work, meteorology, and physical geography. If blessed with plenty of this world's goods, and a boy of mine wished to become a merchant-officer, I would send him for two years either to the "Conway" or the "Worcester," then transfer him to one of Messrs. Devitt and Moore's ships, and rest content. If he did not turn out well, then there must be something radically wrong in himself which money would not obviate. This royal road is paved with gold.

It has become the fashion to deride officers and seamen of the British merchant navy who happen to have been born in the United Kingdom. At the same time the foreigner is extolled for his virtues by those who are, with set purpose, blind to his many faults. The foreigner has at least one recommendation. Owing to the lower standard of living on the Continent of Europe he is able to undersell the unfortunate Britisher, save money, and return to spend it in the fatherland, where the purchasing power of a sovereign is much in excess of that over here. We shall be told that the foreigner in British ships receives precisely the same wages as one of our countrymen. This must be freely admitted. It could not well be otherwise. Nevertheless, by undue preference for the foreigner, the rate of wages is reduced much below what would be the normal were none but Britishers employed. Foreign shipowners actually train the seamen for British ships; the demand is for able-bodied seamen only; and training is almost absolutely unknown under the red ensign. Consequent on this demand for men made on the Continent, our fellow-countrymen have been compelled to undergo adverse criticism in order, as it were, to excuse this unpatriotic preference for foreigners, and utter neglect of training by British owners. Undoubtedly there is a certain amount of truth in the curious newspaper articles which appear from time to time, and the statements made on festive occasions. Yet the writers and speakers almost invariably ignore the fact that the neglect of training is at the root of the whole matter. The seaman of to-day is what his employers have made him. In the Royal Navy there has been continuous improvement, and officers of every rank take an interest in their men. In the British merchant navy sailors and firemen are on the down grade; and only in the large lines, as a general rule, does an officer regard them as having a soul to save. Environment is a factor in the training problem not lightly to be despised. It is dead against the men in cargo-carriers. How can England dare hope for sterling seamen of British birth unless her youngsters are induced to join and are thoroughly trained?

The late Admiral of the Fleet Sir G. Phipps Hornby, dealing with the vexed question of the supply of seamen, in the *Times* of 9th June, 1894, pointed out that "shipowners complain that they are obliged to employ many of these foreigners as mates, and even as captains, for want of competent Englishmen." No more damning condemnation of the present unpatriotic system of manning the merchant navy has ever been made. There is a large fleet of sailing-ships, belonging to Scotch owners, taking every advantage of the prestige of our flag,

on board of which none but foreigners are carried. One of them, at San Francisco, California, dressed with flags, caused a newspaper reporter to visit her under the impression that an event of importance to England was being celebrated. He was disgusted to find that only the red ensign was British, and that the crew were congratulating themselves on something "made in Germany." Just two years after Admiral Hornby's letter, the world's naval architects met at Hamburg. There, Mr. Martell, of Lloyd's Register, ventured to express an opinion that "although German sailors are not so highly paid as British seamen, they are certainly better handled, they are under better discipline, and do their work better." Mr. Martell did not give the name of his informant. In 1895, Lord Brassey told the House of Lords that sterling British-born seamen are "still to be found, and first-class steam liners are always well manned; but the crews placed on board foreign-going sailing-ships are sometimes little better than an undisciplined rabble." Many ocean tramp steamers are on all fours with the sailing-ships. Trained men who know their business, naturally gravitate to lines where their services are appreciated, and where the foreigner is unknown. Let me indicate how preference for foreigners may arise. Mr. J. Stanley Mitcalfe, of the North of England Protecting and Indemnity Association, has unwittingly supplied a key to the riddle. "If the patriotism of British shipowners be appealed to," said he, "it must not be forgotten that there are two sides to the question, as a considerable percentage of our tonnage is owned by firms who have foreign connections, or are of foreign origin. We owe much of our success in the past to enterprising immigrants who have made this the country of their adoption." Reading between the lines, a reason for the preference of foreign crews and the absence of training in British ships is revealed. "We may not speak of England; her flag's to sell or share." Would that Rudyard Kipling's soul-stirring "Ode to the English Flag" were printed on the copy of the articles placed in the fore-castle of every British ship!

Those who are ever eager to revile British-born seamen, regardless of the fact that they are living examples of callous neglect of training, always disregard the large lines. It serves their purposes to look only upon the "undisciplined rabble" referred to by Lord Brassey. Where Jack is properly treated, there he is British throughout. Firemen are perhaps more awkward to deal with; but this, again, is due to want of training, inasmuch as they go to sea when of mature years. The testimony of our large lines is invariably favourable to British-born seamen. Anyone who has read the various contributions to this important subject made by Commander W. C. Crutchley, R.N.R., and Commander W. F. Caborne, C.B., R.N.R., will find them both highly eulogistic of their own countrymen. Fortunately, we have such officers still among us. Captain A. McLean Wait, Marine Superintendent of the Union Line, mentions that "the Union Company's steamers are manned exclusively by Britishers, and the management finds no difficulty in getting and keeping good men." Captain F. M. Tuke, R.N.R., of the



Orient Line, expresses in a few words just how the discipline of large liners is maintained. "You must in the first place get British seamen, and in the second place you must treat them well. Given these two conditions you will have no difficulty. British-born seamen always take an interest in their work. They don't walk—they run. You won't get foreigners to do that." And yet a shouting section of the community is ever ready to revile their own countrymen. Captain J. McKirdy, R.N.R., of the Shaw, Savill Company; Captain J. C. Robinson, of Sir Donald Currie's; Captain E. R. McKinstry, R.N.R., of the White Star, and many others are uniformly impressed by the good behaviour and ability of British-born seamen in the large liners. Captain Thompson, of the White Star, will not ship a foreigner, because he wants "the best sailor for all weathers, and in that respect the Englishman has not his equal anywhere." Curiously enough, one of our near kin across the sea, Captain Jamison, of the American Line, has freely borne witness to the fact that "there is not a better sailor in existence than the English sailor." Hence it follows that training tells to-day just as much as in the early days of the Victorian era, when the screw-propeller was below the horizon of progress. As to the "undisciplined rabble" of sailing-ships and ocean tramps, they are but the result of a pernicious system, are principally foreigners, cannot in any way be relied upon as a reserve, and may in the years to come prove a positive danger to England. It would be downright cruelty to place an untrained tramp seaman on board a war-ship, where every man knows his billet. Even if, as alleged, seamen and officers of Continental origin in British ships are superior to Britishers, it naturally follows that this difference is due to the better education and training of the average foreigner. Bearing in mind that the best foreigners do not desert to British ships, there is room for fear lest the red ensign of this country may be put to shame in the ports of the world, not so much by war as by the arts of peace. Turn we now to our future officers in carrying-craft.

The fleets of the British merchant navy are made up of all sorts and conditions of ships. Absence of training of the officers is about the only feature common to the large majority. It is most illogical to omit training, yet expect to produce educated, reliable officers. Let me put the case this way. Take a youngster from the upper form of a grammar school, fairly familiar with the classics and mathematics; send him for four years to live in a country cottage cut off from the civilising influences of pedagogue and parson; feed him on the usual labourer's diet; compel him to do the usual labourer's work; and he would then be as ignorant as the premium apprentice similarly housed, fed, and neglected on the deep sea. There are many sailing-ships where the master never enters the apprentices' berth or has them aft for instruction throughout the voyage. In ports abroad the youngsters not infrequently go to the dogs. Looking back on my own career, I cannot believe for one moment that the average youngster, fresh from a twelve-month voyage, will care to grind at a school all day when at his home. Even if he were so minded, and a midshipman, R.N.R., how is it possible for him to put in his drill and pore over books

at the same time? Every scheme based on shore tuition of apprentices, under present conditions of service, will not benefit sea-farers; and I submit that it is the nautical profession with which we are first concerned. This point cannot be insisted upon too strongly.

Sir W. B. Forwood, in the course of an address on technical education at Liverpool, rightly said that "an artisan in any mechanical trade can almost double the value of his labour if he has a sound theoretical knowledge. It is to me a matter of deep regret that so little attention has been paid to the subject of navigation. It is a disgrace to the country, and especially to a great maritime nation like England, that navigation is so imperfectly taught." By navigation, presumably, is meant every item deemed necessary to make a man competent for command. Sir W. B. Forwood is quite correct. Yet shipmasters of Liverpool waxed indignant over this plain speaking by a well-known shipowner. Apparently they failed to grasp the fact that this disgrace tells more against every shipowner who accepts a premium and does not train the apprentice, or who will accept the ordinary certificate as good enough, either for a collier, or a mail boat, when there are equally skilful seamen to be had who hold the "extra certificate." Our apprentices, paying premiums of from £30 to £50, are too frequently destitute of training except such as they receive on shore from careful crammers—and this not only in navigation, but also in seamanship!

Shipowning firms who accept premiums and ignore their responsibilities are ruining the merchant navy of England. After four years' neglect, finding himself neither sailor nor navigator, unable to heave the lead or take a sight, the youngster seeks the aid of a competent crammer. I have seen a skilful teacher, who had never left the land, coaching junior officers in the art of handling a ship at sea! Some of the men who come before the examiners are sorry specimens. Captain G. Beall, Principal Examiner of Masters and Mates, London, in Departmental Paper No. 187, has hesitatingly drawn a word-picture of the terrible result of neglect. "In several cases in which a special test by dictation has been applied by direction of the Board of Trade, it was found that the candidates could scarcely spell a word correctly, and it was demonstrated, beyond the possibility of a doubt, that they had simply been coached up in the very words, and in those words alone, that they proposed making use of in giving their written answers." He might have extended his deduction quite easily. This is the class of man probably in view of the Liverpool shipowners quoted by Admiral Hornby. Comment is needless with respect to the training in these cases. Who is to blame? I submit that the owner who accepts a premium, and does nothing for it, is the person directly responsible. Stellar navigation, wrote Captain Beall, is "utterly neglected except by the very few," and his reason therefor is literally true. "The great drawback is that seamen, as a rule, do not know the stars when they see them, and from not having the subject brought prominently to their notice, or, more strictly speaking, forced upon them—which is

generally necessary in order to get them to move—are content to remain in ignorance.” In other words, the sea apprentice is never shown a star by name. It is our misfortune that we may not know, rather than our fault, and all the pleading of Captain Lecky in his invaluable “*Wrinkles in Practical Navigation*,” will not move the average officer to attempt more than the minimum for a certificate.

Some shipmasters urge that apprentices absolutely refuse to come aft for instruction. This is amusing, were it not so serious. We never hear of refusal when rope-hauling, holystoning, or chipping iron rust is concerned. Yet precisely the same force should ensure equal attention from brain and brawn. A crammer of great experience, the late Mr. W. H. Rosser, author of several standard works, once told me that candidates for certificates never learn navigation now. They merely pay to pass the Board of Trade examinations. It does not concern them to understand the subject, and change is impossible until the examinations embrace both theory and practice.

Whether the system of examination has been attended by results equal to those anticipated by its original promoter, the late Admiral Fitzroy, is at least open to doubt. In my opinion it has not. Probably individual responsibility, if pressed properly home, would have been better. Shipmasters and officers of the British merchant navy have improved in educational matters since the early days of the Victorian era. Yet we must not forget that board schools were then unknown, and shore-folk were also more ignorant than now. Had severe punishment fallen upon shipowners who knowingly sent ships to sea with incompetent masters, a change for the better must have taken place. At any rate, this is certain: our standard of nautical education, gauged by Board of Trade examinations, is considerably lower than that adopted by maritime nations of Europe. Insurance covers a multitude of sins, despite interested assertions to the contrary. One effect of unlimited insurance is to remove the necessity for trained masters, officers, and crews.

Suggestions for officers' examinations were made as far back as the first decade of this century. Every class of the community agreed, except the shipowner—he would have none of it. Matters went from bad to worse, inasmuch as individual responsibility was not enforced by legal penalties. In 1836 came terrible tales of incompetent masters and officers. Nine years later a tentative system of voluntary tests was adopted. Lloyd's thought that the classification of officers would be as beneficial as classification of ships. The Shipowners' Society bitterly opposed any change whatsoever. As might have been foreseen, the voluntary system was a failure. Only about 300 certificates were obtained in two years. Each port was a law unto itself; men soon found where certificates could be most easily obtained; and discussions arose as to the relative value of the certificates. Nevertheless, the voluntary examinations were much more likely to ensure thorough training than those of to-day. Plane trigonometry and mercantile knowledge were indispensable; and the “extra” demanded familiarity with spherical trigonometry, marine surveying, and higher nautical astronomy. A few worked papers in euclid and algebra,

The examination was conducted by two masters who had commanded foreign-going ships; assisted by a scientific civilian, in determining the first and second classes. Ignorance of trigonometry compelled 66 per cent. to be content with a third class certificate—the lowest awarded. After 1st January, 1851, compulsion put in an appearance, and every foreign-going British ship had to have a certificated master and mate before her clearance would be granted. So long as the same certificate serves for a vessel of ten tons, or of ten thousand, there is little incentive to take pains in the matter of training. Examinations may either foster a desire for a sound foundation, or a determination to take it for granted. Under present conditions, almost invariably, the future second officer learns navigation and seamanship from crammers on shore. My old friend Captain E. Blackmore, in his excellent work on "The British Mercantile Marine," has summed up the whole question free from prejudice. "The most mischievous part of the system of examination without any effort to secure sound education is that it has tended to burke primary education, and to teach both parents and children that no special education is necessary until the certificate to qualify for promotion has to be obtained, and has made shipowners as well as shipmasters careless of any kind of tuition of the young men apprenticed to them." Like myself, Captain Blackmore has no row of his own to hoe. We both regret the neglect suffered during apprenticeship. Like the minimum food scale, as Jack knows to his cost, the minimum has been adopted as the maximum. A Board of Trade circular of 1850 called attention to the inferior nature of officers' examinations, recommended officers to study at sea, and suggested to shipmasters and shipowners that sufficient time for the purpose should be granted to junior officers and apprentices. Not the least notice was taken of this circular, and to-day, the training of apprentices and junior officers is almost unknown in our carrying-craft.

What training is the premium apprentice entitled to legally? Turning to the usual form of indenture, I find that the employer covenants "with the said apprentice, that during the said term he, the said master, his executor, administrators, and assigns, will, and shall use all proper means to teach the said apprentice, or cause him to be taught, the business of a seaman." This clause is comprehensive enough in all conscience, but it does not safeguard the apprentice in any way.

What is the business of a seaman? Surely few parents or guardians can be aware of the official definition. A cadet from the "Worcester" or the "Conway" costs his parents or guardians for two years' training little short of £150. The cadet is then apprenticed to the owner of a sailing-ship, who receives a premium of £50 for a three-years term. Extra food, pocket money, clothing, and other expenses, have to be provided during apprenticeship. Yet, so far as I can gather, the ship-owner need not, at the outside, trouble himself to get the cadet instructed in anything more than a forecastle lad would obtain without charge, and who is, moreover, receiving wages all the time. The Assistant

Secretary of the Board of Trade has courteously supplied me with the opinion of the Board as to the "business of a seaman." After pointing out that a seaman is not necessarily a navigator, he goes on to state "that from the point of view of the legal obligation undertaken by the master, the words as they stand bind the master in effect to teach the apprentice a thorough knowledge of theoretical and practical seamanship; *i.e.*, the handicraft and practice necessary for the fitting and management of the standing and running rigging of ships, their spars and sails, the knowledge and practice necessary for the management of ships and boats under all circumstances of navigation and weather, and a knowledge of the right handling and stowage of cargo." In other words, a premium apprentice does not have the least claim to training in navigation and nautical astronomy. If this is the correct reading of the law, then it is high time some alteration should be made in the Board of Trade indenture. At any rate, every parent or guardian should be supplied with a copy of this definition before signing the indenture. A Member of Parliament might be prevailed upon to push this important matter in the House of Commons. It is impossible to learn cargo work under modern conditions, but all the other items mentioned above ought not to require the payment of a premium. I fear Mr. Walker's definition is generally accepted. It would be worth while for some wealthy parent, or some philanthropic person, to test the correctness of this view in a court of law. Mr. G. A. Laws, secretary of the Shipping Federation, says:—"Of course I have no official view 'as to what both classes of apprentices, in steam and sail, are entitled to in the matter of training.' My personal impression would be that a premium apprentice, in sail or steam, is entitled to instruction in navigation, as well as his training as a seaman; that apprentices receiving wages, in sail or steam, are entitled to their training as seamen while on board, with maintenance while on shore; and as far as I know that is all they get." In a large number of sailing-ships the treatment of premium apprentices does not differ in any way from that of a fore-castle lad. In fact, some masters believe the latter has the advantage. Unfortunately, boys other than premium apprentices, are seldom even carried. Our young sailors are absolutely cut off from training, as a general rule, in British cargo-carriers. How do they fare at shore educational institutions?

The late Dr. Thomas Masterman Winterbottom, in 1837, founded a nautical school at South Shields, and at his death, in 1859, endowed it with £20,000. It is still in existence, doing good work, under an old classmate of mine, Mr. A. T. Flagg, M.A. Gratuitous tuition is afforded to anyone able to write legibly and work examples in the first four rules of arithmetic, provided he can prove one year's sea service. In the founder's opinion the knowledge of navigation acquired by boys of tender years is seldom retained, and the technical training he deemed desirable included every part of mathematical and other learning which would fit an officer for carrying out the manifold duties of his noble profession. Four nights a week, from October to March,

lectures were to be delivered on mechanics, navigation, hydrostatics, pneumatics, optics, electricity, meteorology, and maritime law. "That most sublime of all sciences—astronomy"—together with geography, brought an extra payment to the instructor for special treatment every Saturday. The public might be admitted by payment of a nominal fee, and private classes permitted out of school hours, but with a satisfactory stipulation that sailors must always be admitted free—"bearing in mind," said Dr. Winterbottom, "that the object of the same school is to render the sailor accomplished in those branches of knowledge which are especially required in the higher stations of his calling, rather than to afford merely elementary instruction which may be equally well obtained in the ordinary schools of the town, and with which schools there ought to be no interference." It is impossible for the modern seafarer to avail himself of Dr. Winterbottom's munificence. After drifting dead to leeward for four years on the educational sea the fair wind comes too late, except for the clipper craft, to reach the destined haven before the date of cancelling the charter. For ten years the South Shields Marine School has had a department devoted to the instruction of youths destined for a life on the ocean wave. It is divided into nautical and marine engineering divisions. Boys over thirteen years of age are admitted after a test examination. Probably more good will result from this department, by training youths, than by attempting to tackle men who will have much to unlearn, provided the youngsters go to sea.

Trinity House Navigation School, at Hull, has an excellent record under Mr. Scapling. Not less than 150 boys, of whom 100 are provided with free tuition and clothing, receive £2 10s. towards outfit on apprenticeship, double that amount if in a square-rigged vessel or a steamer, and a bonus of £1 for each year's apprenticeship faithfully served. Ten exhibitions of £5 each are awarded annually, to be paid on expiration of the first year's sea apprenticeship. Sons of needy seafarers, preferentially orphans, are chosen. They must be 4 feet 6 inches in height, and pass the corporation's surgeon. The curriculum is similar to that of South Shields, as the boys are taught reading, writing, grammar, geography, arithmetic, mathematics, navigation, nautical astronomy, steam, magnetism, the use of nautical instruments, charts, and chart construction. The acting warden's consent must be obtained before a boy can be apprenticed, all indentures are prepared and enrolled by the secretary of the Trinity House at the expense of the corporation. As at South Shields, adults are also taught either for Board of Trade examinations or that they may increase their knowledge of navigation.

Charles II. left funds to Christ's Hospital for the purpose of paying so-called "sea wages" to boys of the mathematical school who went as sea apprentices for seven years. This allowance remains; but the term is now three years, provided the youngster does not leave the sea. A sum of £25 is allotted for outfit in the first year, and a balance of like amount is paid over on the completion of three years' satisfactory sea service, vouched for by the master. The youngster's nautical attain-

ments are on that occasion tested by the head-master. So salutary a rule, in so far as theory is concerned, is deserving attention. An annual examination of sea apprentices by the Board of Trade might effect very much for the mercantile marine. Her Majesty's bounty of seventeen shillings is allotted to every boy going to sea and recommended by the head-master. He also receives a suit of blue clothes, six shirts, six pairs of stockings, a naval cap, two pairs of shoes, several books, and a case of nautical instruments; boys specially recommended receive, in addition, a silver medal. The school authorities appear to take a friendly interest in the welfare of these youngsters during apprenticeship. In fact, it is during this period that sterling advice is most beneficial.

The Hibernian Marine Society at Dublin conducts a boarding school affording instruction for boys desiring a sea life, whether in the Royal Navy or the mercantile marine. Sons of poor Protestant parents, of good character, physically and mentally fit, are admitted between the ages of nine and twelve, with a year's grace either way under special circumstances. They are clothed, lodged, and fed, without charge, until sixteen or seventeen. Sons of deceased, or poor seamen, and none but this class, are admitted so long as qualified and deserving candidates are obtainable. The endowments are for the purpose of maintaining buildings or ships, to carry on the technical training, such instruments and appliances as are necessary in navigation and practical seamanship, and to advance in life deserving pupils leaving school, in want of assistance, by providing outfits for them, always giving a preference to boys who intend to follow the life of a seaman. Provided the free boarders are not prejudiced thereby, day pupils are received at the school. The Governors have power to remove the school to a ship, or ships, with the sanction of the Commissioners of Charitable Donations and Bequests for Ireland. An inspector, appointed by the Lord-Lieutenant, visits the school, and reports thereon once a year. Whether the inspector is familiar with higher and broader nautical education, is uncertain. I understand that occasionally an Army officer inspects some of the reformatory ships! It would be interesting to know how many boys proceed to sea from this school and remain there.

The Liverpool Nautical College is unique of its kind. Curiously enough, when the question of nautical education was raised before the Liverpool Town Council, it nearly went to the wall. Only by a majority of one was a resolution passed to authorise the expenditure on nautical education of public moneys set free for technical instruction. Whereas nearly every class of shore employer is urging forward the claims of artisans for technical training, in order that England may hold her own against all comers, many ship-managers appear to desire as little education in an officer or master as is possible. Sir W. G. Armstrong founded night-schools specially for his apprentices and young men. Isaac Lowthian Bell greatly desired a chair for navigation at the Newcastle College of Physical Science in addition to chairs for civil and mechanical engineering. He believed that something more ought to be demanded from the modern men in huge steam-ships than was sufficient for the

short sailing-ships of half a century ago. A serious defence of the preference for uneducated officers at sea would be worth having. Some owners have denied that education and seamanship can possibly exist together. The best class of shipowner, however, is alive to the fallacy involved in this argument. Lord Brassey, when opening the Liverpool Nautical College, about five years since, pointed to defective education of masters as a cause of loss of life and property, and as militating against Imperial interests. Sir W. B. Forwood despaired of nautical education, and Mr. W. S. Graves warned his hearers with respect to educated foreign competition. All three deplored the marked deficiency of training for seafarers. Many managers of small companies have but little capital at risk therein; and the underwriters cover everything, even to unearned freight. Competition is so keen in the insurance world that individuals accept almost any risk. Moreover, were there not any losses, the underwriter would find his occupation gone. Shipmasters and officers are not slow to perceive that education is rather regarded with aversion by limited liability companies, and adopt the path of least resistance. Nevertheless there are many honourable exceptions.

The Liverpool Nautical College is the only institution of the kind in the United Kingdom, is controlled by the Corporation, and more than satisfies the demand. The tuition branches out into three lines:—for boys intending to adopt the nautical profession; for youths with some sea experience; and for officers of every grade, each class being dealt with separately. The first division is, in my opinion, the most valuable to the profession at large. It takes up arithmetic, geometry, trigonometry, navigation, nautical astronomy, geography, electricity and magnetism, steam and the steam-engine, mechanics, ship construction, and drawing. In addition, the technical instructor, a shipmaster of repute, exercises the youngsters in seamanship so far as it can be carried out by means of shore appliances. They will learn with precision more in this way than at sea. All these subjects are deemed necessary by the authorities for the future ship-master, at corporation cost. Yet, in quite 90 per cent. of sailing-ships, apprentices who pay £50 premium never even hear the names of such items of nautical training. This emphasises the utter failure of the premium-apprentice system. You may subsidise owners for *carrying* apprentices; but, without *training* being insisted upon, it is difficult to see of what use the resulting “undisciplined rabble” would be to England in her hour of need.

The second division for apprentices is not, and cannot hope to be, a success. This is not the fault of the college. All work and no play will make mercantile Jack a dull boy indeed. Those who expect youngsters to attempt working double tides in this way must surely have forgotten they were ever boys. The ship at sea must be the training school for apprentices in both theory and practice. When in ports abroad, like Calcutta, San Francisco, and New York, where sailing-ships lie idle for months, it would be quite practicable to subsidise a school for apprentices, and compel them to attend regularly. Owners and all concerned would be benefited. As it is, the youngsters are occupied



in labouring work, which could just as well be carried on at a farm. Every scheme for training apprentices at home ports has proved a failure. It is expecting too much from the youngsters. The Liverpool headmaster, Mr. J. Gill, has suggested we should copy Continental nations by founding a system of compulsory attendance, after apprenticeship, at a nautical school for a sufficient period at the public expense. I quite agree with my friend that, under present commercial conditions, "unless some scheme of this nature is carried out, the majority of apprentices of to-day will find themselves quite unable to cope with the exigencies of the work of navigating officers of the future." Assuming such compulsion became law, could an officer be certain his post would be kept open for him? I have heard of owners objecting to apprentices joining the R.N.R. on the ground that it interfered with their duties in home ports.

Apart from the cramming classes and the first division for youths, the work of the Nautical College has not been nearly so successful as it may be in the years to come. In 1896 only six students entered for the college examination in magnetism and compass adjustment, and I am not sure that they were all officers. Of these one took honours, one advanced, two a pass, and two failed. The stiff and scientific diploma examination has not attracted so many candidates as expected. The system of tuition by correspondence is capable of extension and widening, as also is the lending library. Nevertheless, when all is said, I am constrained to confess that the demand for higher and broader nautical education must be strictly limited under existing conditions. Liverpool steam-ship owners, following the lead of the sailing-ship owners, have decided to give the preference, when selecting officers, to those holding the college diploma, and agree to give every facility to their officers to attend the classes. What this means is not quite clear. If the officer is to stand off for a long period, studying at his own expense, the result is certain. He cannot afford to remain idle, and the recommendation will become a dead letter. Probably not five per cent. of the men holding masters' certificates could pass creditably for the college diploma. A reliance on first principles, from the very commencement and throughout the whole of a career, is indispensable, having regard to the subjects mentioned in the report.

The Science and Art Department does admirable work for the education of shore-folk. Every effort is made to induce the rising generation to attend classes subsidised by that department. Clerks, mechanics, and others, who never leave the land, can thus obtain instruction, at a merely nominal charge, from October right up to May, after the day's work is done. Unlike those who try to cater for apprentices, the department rightly expects that students require a holiday. Praiseworthy persons who attend these evening classes do not come to learn any particular trade, but to master the scientific principles upon which it is based. Every May, the students who have made a certain number of attendances undergo an examination in selected subjects, and upon the results thereof the educational subsidy of the

department is distributed. A little is also done for seafarers, on somewhat similar lines. Unfortunately, the sailor is too often an untrained bird of passage. Steam has whittled down to a fine point the time spent in a home port. With a few brilliant exceptions, the modern merchant officer is neither able nor willing to study. The department has attempted something in alleviation of his hard lot, but without avail. A fair knowledge of mathematics is absolutely necessary for a Science and Art Certificate in navigation or in nautical astronomy. And rightly so. Still, a first-class honours certificate can be obtained with less mathematical training than would be required to understand Todhunter's "Mechanics for Beginners." Even this small amount is not within the ken of many a navigator. Hence it has been suggested that the department should introduce examinations based upon rule-of-thumb, because, forsooth, the knowledge of a Senior Wrangler is now required. I sincerely trust the public money will never be diverted in this way. Navigation, on paper, is merely plane and spherical trigonometry, with a few nautical terms thrown in for ballast. Consequently, teachers who "taught for the pot" were able to increase their incomes by sending up schoolboys to be examined who had not the remotest intention of going to sea. So serious did this become that the then examiner, the late Dr. Woolley, was compelled to enforce his veto on the papers in navigation worked by youngsters of ten years of age. He rejected nearly the whole of the candidates sent up by certain schools, and was not troubled next year, as the schools threw up the sponge. These paper navigators actually came from inland places. They could earn the grant, and that was sufficient for them to be taught; not that they might know, but that they might pass.

At one time there were sixteen navigation schools subsidised by the Science and Art Department, at a cost of £2,000 per annum. In 1862, however, payment by results was substituted. Thereupon, teachers found cramming for Board of Trade examinations the only satisfactory way to a competency. The neglected education of seafarers in their earlier years positively precluded them from participating in this training. If, as I suspect, the students were neither sailors nor intended for the sea, the action of the department does not require justification. We want trained seafarers. There are many other educational funds for the training of landmen. It is absurd to suppose that the department could continue payments to teachers who were simply engaged in affording shore youngsters an application of their mathematics in order to earn the grant. Funds misapplied in that way would actually retard nautical training. Very few of the candidates get beyond the elementary stage. Of 252 who were of my year, 1877, 165 were elementary, 80 advanced, and 7 honours. Only two of us took first-class honours, and we certainly did not display the proficiency of a Senior Wrangler. In 1892, payments on results for the elementary stage came to an end. It would be well to refuse payment for anyone who is not in, or about to join, the nautical profession. A more liberal scale for seafarers could then be devised with the money thus set free.

National funds for educational purposes ought not to be exclusively devoted to one section of the community. This being granted, it follows that there is need for a reconsideration of the Science and Art system, which does not help to foster nautical education. As matters stand, the influence for good of the department stops at high-water mark around our coasts. Yet, in my opinion, the sailor of the British merchant navy will either have to be taught at sea or allowed to fall behind in the international race. Navigation and nautical astronomy are not best mastered by cramming long verbal rules, and sticking like wax to one epitome. Even if easier, which cannot be admitted, the disadvantage of rule-of-thumb for the modern mariner is most marked. He who has first taken up elementary mathematics, including trigonometry, will find both navigation and nautical astronomy easy enough. At the same time, he will not experience any difficulty in following a paper on ship stability, or gunnery instruction on board H.M.S. "Excellent," if an officer of the R.N.R. The complicated verbal rules which are alone at the command of men crammed for Board of Trade examinations do not in any way assist in understanding another branch of the subject based upon precisely the same first principles.

Foreign nations on the Continent of Europe have long recognised this fact, and framed their mercantile marine examinations in agreement therewith. Inferior examinations, such as have prevailed over our islands for many years, have had an adverse effect upon the training of officers, and flooded the market with certificates. I understand this is their aim. A youngster who succeeds in passing for a shipwright apprentice in one of Her Majesty's dockyards has to show an acquaintance with algebra and geometry greater than is required for any grade of the British mercantile marine officer. Lord Kelvin once told a Royal Commission that when a youngster learns spherical trigonometry he knows more than all the nautical professors in the world can teach him, except currents and winds, the chances of falling in with icebergs, and under what conditions the longest way round may prove to be the shortest way home. Having first principles at hand, practice comes easy. Training obtainable on board the "Conway," or the "Worcester," or the sea-going training-ships of Messrs. Devitt and Moore, would apparently meet his view of the matter.

Even a cursory comparison between the step by step examination papers of the Science and Art Department drawn up by Mr. H. B. Goodwin, M.A., R.N., and those of the Board of Trade, clearly indicates the vast gulf dividing the reliance on mathematical principles, common to many a science, and rule-of-thumb, useful only for the particular purpose. This is not the fault of the Board of Trade examiners, whose limits are strictly set. The system, not the examiner, is at fault. As long as the Board of Trade examinations are strictly in the art of navigation, but do not touch the theory, nautical colleges must languish. The Board of Trade will not follow the lead of Continental nations in examinations for merchant officers. Why? Because, as Commander Crutchley once pointed out, "it dare not." The very ship-managers who shout so loudly about the incompetency of

British seamen and officers compared with foreigners will not allow either an A.B. rating or stiffer examinations.

I would seriously suggest that the Science and Art Certificates of the first class, in the elementary, advanced, and honours divisions of navigation and nautical astronomy should be accepted by the Board of Trade as satisfying the requirements of second mate, first mate, and master, respectively. Practical navigation, as I understand the term, and seamanship, can scarcely be tested within four walls. If only this plan were adopted, a portion of the Science and Art funds sent seaward, and ship-owners of repute prevailed upon to evince a preference for educated officers, the rising generation might take to improving themselves as markedly as their more favoured friends on shore. Liverpool shipowners have agreed to prefer officers trained at the Nautical College, just as the law and medicine accept success at London University matriculation as entitling favourable consideration. Not two per cent. of the present premium apprentices in their final year could take a first-class in the Science and Art elementary stage. Nor will there ever be until there is training at sea. Anyone desirous of ascertaining the kind of questions put before candidates at these examinations will find them worked out by me in the *Nautical Magazine* for each of the past six years.

Notwithstanding the base uses to which the Science and Art examinations were put by a few teachers in inland places and elsewhere, in order to gather in the grants for the training in navigation of boys who had not the remotest intention of proceeding to sea, there are some of my friends who still believe that something can be done on these lines. A rumour is afloat to the effect that the Education Department intends to open classes in navigation at a number of the London evening schools. If every boy who takes up this subject will enter into a bond to become a sea apprentice, I am with the promoters of this system. If, however, the navigation is to be treated as it was years ago in National schools, then my earnest conviction is dead against any such waste of energy. Navigation is but mathematics; hence the youngster who intends to remain on dry land had better stick to his last. Let him learn mathematics as such, not disguised under the name of navigation. Even now navigation is taught to youngsters who have not the remotest desire of seeking salt water. Greenwich School, whence many an excellent navigator proceeded to sea, has something of the kind. The Boorman Foundation was originally for the sons of Thames watermen. The moneys are now spent on training youngsters in nautical subjects who eventually become clerks in City offices. I have only come across three boys from this foundation, and all three are in shore employment. Surely some stipulation might be enforced, making a sea life compulsory on every boy who accepts a place in the school under this head: There would be little difficulty in giving instances where funds left for *bonâ fide* seafarers have gone over to landmen. London has tried night classes for young navigators at the People's Palace. The secretary asked my advice, and I predicted dismal failure for them. Experience proved that the sea apprentice preferred a short interval, and remained away from the classes, which were eventually taken off the list.

While British owners have sat still with folded hands, the United States has boldly grappled with the difficulty. The Secretary of the United States Navy is empowered to lend Boston, New York, Philadelphia, Baltimore, and San Francisco a suitable ship for sea-going training purposes, together with her fit-out, and to detail naval officers as superintendents and instructors. The local authorities agree to keep the ship running, that she shall not be in any sense a reformatory, and returned if no longer required. Shipowners and others connected with the United States shipping industry at Boston, New York, and Philadelphia have accepted these terms. I have visited the vessels, examined several of the youngsters, seen the papers worked by the boys, and can only regret that such ships are not under the British red ensign. They afford free technical training of a high order to youngsters desiring to serve in ships of the Great Republic's mercantile marine, in much the same way as Messrs. Devitt and Moore carry out Lord Brassey's scheme for British boys at the sole expense of their parents. New York has the "St. Mary's," a corvette of 1,025 tons displacement; and Philadelphia runs a sister-ship, the "Saratoga." The guns have been removed, and the rig assimilated in a great measure to that of American sailing-ships. In other respects there is little to differentiate them from the U.S.S. "Alliance," training-ship for boys of the war navy, on board which I recently spent a few days as the guest of Captain J. McGowan, U.S.N.

A careful scrutiny of these training-ship youngsters destined for the American merchant service, convinces me that they are quite comfortable, well fed, and diligently instructed by the U.S.N. officers detailed for that important duty, in practical seamanship and paper work. At Philadelphia, the commander of the "Saratoga," Captain F. M. Green, U.S.N., showed me with excusable pride the many excellent papers worked by fifty of his flock who had just graduated after remaining on board for the full term of two years. They would have delighted the heart of a Royal Navy examiner. Neat diagrams were given with nearly every answer. The instruction embraces almost everything an educated sailor requires to know. Here we have theory and practice closely united, as they ought to be—not divorced, as in the overwhelming majority of British merchant-ships. Similar training is afforded by the "St. Mary's." A year's work in these vessels includes a voyage from the home port to the Azores, Southampton, Cherbourg, Lisbon, Gibraltar, Madeira, and home; followed by a winter cruise to the West Indies. While in the home port commercial education is to the fore, such as history of the United States, English grammar, mathematics, and the theory of navigation.

Candidates for admission must be between the ages of 16 and 20, able to pass a strict medical examination, long for a sea life, be of good character, and pass an elementary education test. Parents or guardians have to provide a small sum for outfit, as the boys are dressed man-of-war fashion. Food and tuition are free. The cost of keeping up such a ship is about £5,000 per annum, and she can carry 100 scholars, together with the necessary officers, petty officers, and seamen. Corporal punish-

ment is unknown; stoppage of leave proves a deterrent; and, as the officers are on the United States Navy active list, war-ship discipline is approached as nearly as possible.

The "Enterprise," Boston's training-ship for the mercantile marine, is conducted on rather loftier lines. She is a barque-rigged steam cruiser of 1,375 tons displacement, and trains both for the executive and the engineer branches. In addition to the captain, she carries five commissioned officers of the United States Navy. One lieutenant is executive and seamanship instructor; another is navigator and navigation instructor; an ensign is ordnance officer and mathematical instructor; the engineer instructs in mechanics, engineering, and electricity; and the surgeon is responsible for languages. When at home, two civilian instructors assist in mathematics, mechanical drawing, and languages. The organisation of these mercantile marine cadets is based on that of the United States Naval Academy. She had a battery of guns when under Captain J. F. Merry, U.S.N., but I believe they have since been removed to the shore. Last summer I came across a number of her cadets, guide-books in hand, overhauling Westminster Abbey, and had a chat with a son of Massachusetts, who looked every inch a seaman. The cadets' full dress is a suit of blue cloth, the coat trimmed with black braid. Upon the collar is a gold anchor; and the cap has a gold cord on the visor, with a gold anchor surmounted by a wreath on the front. They might easily be mistaken for premium apprentices from British merchant-ships. Upon entry the cadets are allowed to choose between the seamanship and the engineering courses, and are specially instructed in the course chosen. Both divisions, however, attend the same classes in subjects common to them. Sailor cadets are instructed in seamanship, navigation, nautical astronomy, mechanics, engineering, algebra, English, and mechanical drawing. Cadets who prefer engineering are instructed in the theory of ship and engine construction, fuel, lubricants, distillers, various types of engines and boilers, electric fittings, refrigerating machinery, coal stations, duties of firemen and engineers, working in iron and wood, and mechanical drawing. Under the chief engineer's direction they carry out nearly all the ship's work except the cleaning, and are daily exercised in a well-fitted machine shop on board. The regular crew of the "Enterprise" is twenty-four men. There are two mates who keep watch in port, master-at-arms, electrician, boiler-maker, blacksmith, machinist, carpenter, sailmaker, steward, cook, three firemen, three deck hands, and seven messmen. The commissioned officers of the United States Navy are the only other persons on board, except the cadets. On 1st January she had 95 cadets on the books—37 in seamanship, and 58 in engineering. Meritorious lads may remain a third year for special study and practical work. With ordinary care the sum of 100 dollars deposited by the parents covers all a cadet's books and clothing during his two years' training.

Not every boy who joins will remain through the two years' course, and graduate. A few do not intend to put in more than one cruise; others who would prefer to stay find the life unsuitable. This wastage

is unavoidable, and is similar to what occurs on shore. Still, the wholesome discipline and exercise even of one cruise is not thrown away upon them. A number of the graduates from the American sea-going training-ships are holding good positions in ships of different classes. American mail steamers are compelled by law to "take as cadets or apprentices, one American-born boy, under twenty-one years of age, for each one thousand tons gross register, and one for each majority fraction thereof, who shall be educated in the duties of seamanship, rank as petty officers, and receive such pay for their services as may be reasonable." Consequently there is a demand for such well-trained youngsters in the best steamers of the American line, and elsewhere.

I have detained you long enough. Having stated my view that training practically does not exist in British merchant-ships, neither for apprentices nor for sailors, it behoves me to suggest a remedy. In order to ensure a thorough training of seamen, it would be well to compel every ordinary seaman, and every able-bodied seaman, to pass a practical examination in seamanship. By this I do not mean precisely what was understood by seamanship in the days of our grandfathers, but modern seamanship. Men who would do well enough on a steamer, with rudimentary masts, might be positively dangerous in a sailing-ship. This innovation would have a tendency towards improvement. At the same time some inducement should be afforded to shipowners to induce them to prefer the British sailors and firemen before all others. As it is, the foreign ready-made article, "made in Germany," is well to the front. He costs nothing to train, and when done with can be cast on one side as a foreigner. A change in the system of discharges is also necessary. At present a V.G. discharge is often most misleading. If more care were taken to fit the punishment to the offence there would be fewer V.G. discharges in existence. Now we have a curious anomaly. On the one hand, shipowners proclaim from the housetops the incapacity and immorality of seamen in British ships. On the other hand, we have the fact that a bad discharge is quite a rare thing. If a return were called for, I am prepared to forecast that an overwhelming number of seamen possess V.G. discharges. A continuous discharge, setting forth the lawful holder's description, is almost absolutely necessary to ensure trained men. With an examination looming in the future, and a continuous discharge to tell tales, more pains would be taken to learn and to keep within the bounds of moderation. I shall be told that the exigencies of commerce permit neither of ratings nor continuous discharges. Very well, then; trained men are simply outside the region of practical politics, and shipowners must put up with those of Continental nations.

Apart from ratings and reliable continuous discharges, it appears to me that good boys from the stationary training-ships must be a better investment for shipowners who really want trained men than from anywhere else, in so far as forecastles are concerned. Boys are not kept long enough on board these ships in some instances, even when deeply imbued with the romance of a noble profession. Owners will not carry boys; and,

as pointed out by Mr. H. N. Sullivan, a few of the training-ship youngsters are quite out of the running by reason of their puny stature. They would be lost on the yard of a 2,000-ton sailing-ship. A healthy boy, thoroughly trained on the "Indefatigable," for example, is worth considerably more aloft than a youngster fresh from a shore school and his mother's apron-strings. He has been broken in, as it were. By increasing the number of months a youngster may stay on board such a ship—in other words, taking care that he is old enough and strong enough to ship as ordinary seaman directly—there might be more demand for him. Sailing-ships are gradually disappearing from off the high seas, or becoming of enormous proportions. Either way, the demand for boys is naturally lessened. Hence, in the near future, failing sea-going training-ships like those of the United States, we will have to rely more and more upon the training afforded by the stationary ships around our coasts. They turn out youngsters who can steer, heave the lead, handle a boat, and carry out other items of seamanship, all in a proper manner. Black sheep there will be in every flock. At the same time, every boy who leaves a training-ship without going to sea is just so much money wasted, in so far as the nautical profession is concerned.

Coming now to apprentices, we cannot have trained officers unless, and until, a change is made in the indenture form by the Board of Trade. As it stands, the expression "duties of a seaman" is delightfully vague and mischievously misleading. An A.B. of the Royal Navy should know more than an apprentice just out of his time whose parents may have spent £50 on him as a premium, without mentioning the outfit and pocket money. A cadet from the "Conway" or the "Worcester" will have cost his parents or guardians nearly £300 throughout; and, apparently, his indenture only entitles him to be instructed in the duties of rope-hauling. Legally, no doubt, the opinion of Mr. Ingram B. Walker is quite correct. In equity the apprentice has a right to be taught the duties of a junior officer, or otherwise the premium is obtained under false pretences. Every owner who accepts a premium knows full well that more is implied than what could be learnt equally well by a fore-castle lad earning wages all the time, and far better by boys in the training-ships. In order, then, to have training of apprentices the Board of Trade indenture must be altered so as to include the duties of a junior officer, navigation, and seamanship. Perhaps the Shipping Federation might bring this before the House of Commons for favourable consideration. As worded now the premium apprentice's indenture is a delusion and a snare.

Next, there is great need for training of apprentices at sea. Without this, any and every scheme of shore tuition is bound to be a failure. At the end of my first four years at sea I can conscientiously say that as third officer of a clipper-ship my knowledge was much less than when at school. Afterwards, when attempting to make up this leeway, I found myself headed off every time. Education to be of any use must be continuous. If those who think otherwise will attempt a Science and Art examination, they will probably have reason to alter their opinion.



Shipmasters must of necessity be the proper persons to train our future officers and masters. I shall be told that either masters do not know enough, or have not the knack of imparting knowledge. Well, Rome was not built in a day. By teaching we learn, and probably but few of the many Board School and science teachers are born instructors. If only sufficient inducement be held out to shipmasters and mates, I firmly believe a start might be made. The sea must be the school for seamen. At present, for all premium apprentices, except those from the "Conway" and the "Worcester," the shore's the thing. Wendell Phillips has well said :—"Education is the only interest worthy the deep controlling anxiety of the thoughtful man." Yet, I have information from former cadets of those splendid ships, and a speech made by an old boy, Captain Hutchinson, R.N.R., confirms it, that much is forgotten at sea. It cannot well be otherwise during a neglected apprenticeship. Some masters actually do teach. My old master, Captain Henry Toynbee, for many years Marine Superintendent of the Meteorological Office, would teach even the man before the mast, provided he cared to come aft in a clean shirt. So great was his influence for good, that I have within the past few years come across three of his former midshipmen, one a Q.C., one a C.B., and one a Board of Trade surveyor. Still later instances may be obtained from an interesting publication by the Missions to Seamen, entitled "Lay Work in the Merchant Navy," which won the Brassey Prize of £25. Captain F. B. Hopkins, now a marine superintendent at Liverpool, clearly pointed out how, where the will existed, the way could be arranged.

Let me suggest a way in which a beginning might be made in the training of officers. The Science and Art Department have only to send seaward the £2,000 which was once paid to shore teachers, but got diverted from its proper course. Consider each ship as a nautical school at sea, in close connection with Liverpool Nautical College as an advisory body; the master, or a responsible officer deputed by him, as naval instructor; and the apprentices as the students. Pay the master or officer; award prizes and medals to the persevering apprentices; and have scholarships for the very best, enabling them to stay on shore for further study at either Liverpool College or the Royal Naval College. I admire the scheme, with respect to scholarships, of Captain A. T. Miller, R.N., of the "Conway," a thoughtful contribution to the literature of the subject, which will be found on page 139 of the *Nautical Magazine*, 1892. He has had experience of both branches of the nautical profession, and knows where the shoe pinches. Let us suppose a ship with six apprentices, and the master, fully alive to his responsibilities, undertakes the duty of instructor, backed by the Science and Art Department, in much the same way as is the shore teacher. In fine weather, during the dog-watch, he will have all six of them aft, and carefully instruct them, to the best of his ability, in technical subjects relating to their profession, which will serve as a foundation for a goodly superstructure in the years to come. I propose that only four separate subjects be taken. They are mathematics, mechanics, navigation, and

nautical astronomy. Apprentices of the first year would take the elementary stages; of the second year, the advanced stages; and of the third year, the honours stages. Of a starry night, in the trades, or running down the easting, much useful acquaintance with aids to navigation other than the sun might easily be obtained. A liberal interpretation of the number of the attendances necessary to ensure the grant, and an earnest appreciation of the many difficulties in the way, would doubtless be made by the Science and Art Department, in order that the sea-farer may get on to an equally satisfactory footing as regards education, as is the lot of youngsters who care nothing for the sea. The fourth year could be devoted to a close study of matters other than the four Science and Art subjects. County councils and technical education bodies would co-operate if only they could see some result worth having. Every year an open competition for scholarships in sufficient number should permit advantage being taken of the higher and broader education afforded at Greenwich and at Liverpool. Shipowners would be benefited by obtaining a more educated body of officers. There must also be inducements held out, not only for masters to teach, but also for students to learn. If some such scheme were devised, it would ensure the training of premium apprentices. As matters stand, the shipowner pockets the premium, and the shipmaster is supposed to exert himself as an instructor for nothing. Human nature steps in here. We do not expect teachers of Science and Art classes to work for the love of it, for patriotism, or anything of the kind. Neither can it rightly be supposed that the shipmaster is of sterner stuff. Every Sunday there ought to be divine service held on board ship. Unfortunately in some lines, trading in the Far East, that day seems specially suitable for working cargo, or going in and out of port. Nevertheless, in many ships Sunday would be far better for everyone if an attempt were made to keep it holy.

Shore schools in home ports for premium apprentices are almost bound to fail. Not so shore schools in ports abroad. Take San Francisco, California, for example. Some of our very finest sailing-ships are there from three to thirteen months, without a break, waiting for a cargo worth carrying. During all this time instead of the premium apprentices chipping iron rust, clearing the limbers, and similar work, they might easily be on shore at a science school. The success of the Missions to Seamen at that port clearly shows what can be done in this way. Found a British school for apprentices at ports abroad where British ships congregate, support it at the expense of the country, use it as an aid to the tuition afforded at sea, and owners mindful of their reputation could be prevailed upon to send their apprentices ashore to school at least three days a week.

Commander J. HENDERSON SMITH, R.N.R. :—It appears to me, listening to the reading of the paper, the author deals more with the education of officers than with the training of boys for sailors. I was in command of the "Worcester" for over twenty-five years, and know that there is no scarcity of well-educated men for officers. The "Conway," in Liverpool, an excellent training-ship, and the

"Worcester," on the Thames, send out a large number of cadets, several of whom have been promoted to junior officers before finishing their first voyage, a proof of how well they had been trained. In addition to these, there are numbers of boys trained on board Messrs. Devitt and Moore's ships, on the system started by Lord Brassey. The boys pay a premium and have instructors, to say nothing of a large number who have a good education, and who go to sea direct as midshipmen, or apprentices. Cadets who were trained on board the "Conway" and "Worcester" are now commanding and officering most of the finest steam and sailing ships of the best lines, and a goodly number of them hold commissions in the Royal Navy and Royal Naval Reserve, many of whom are now serving on board Her Majesty's ships at home and abroad. We want more sailors. I therefore think we should have more training establishments, either on board ship or on shore, for poor boys of good character, and of respectable parents, boys from towns or country, strong, healthy fellows desirous of becoming sailors; not waifs and strays, although poor boys, they have great need of help, and many of them do well at sea. We might have two training-ships, or establishments on shore, in each of our large ports, one for young, and the other for older boys, giving them at the same time a moderate education. In this way, we would soon have an ample supply of well-trained boys to make good sailors of. The Government need not be at all the expense; an allowance might be made from the rates where the boys came from. The parents might assist a little. Goodness knows the shipowners have enough to do in these hard times, without paying anyone to conduct a school at sea. If a captain or officers care to teach boys when they have time, that is another matter. Something must be done if we are to have more and better sailors, such as we had in old times, when every boy going to sea was bound apprentice, and it mattered not whether he had to live with the sailors in the forecabin or aft with the officers. I was bound apprentice for seven years. There were six apprentices on board; three lived with the sailors, two and myself lived aft (called midshipmen now). As to foreign sailors, it is to our discredit that there are so many in our merchant service. I never took them, it mattered not what wages they would go for; I had no difficulty in getting good men. A few days before sailing I had a notice posted up in the shipping office, so many able and ordinary seamen wanted, for such a ship and voyage. Wages 5s. and 10s. more per month than the wages out of the port at the time, but no advance (no foreigners taken). The men came down to see the ship, and where they would have to live. I could always have plenty of good men, and, with a good stock of clothing, they generally went the round voyage with me.

Commander W. F. CABORNE, C.B., R.N.R. :—I think we ought to be very much obliged to Mr. Allingham for bringing this very important subject before us this afternoon, although we may not all have arrived at the same conclusions that he has done on various points. Personally, I am rather sorry that he should have commenced his paper by giving prominence to certain allegations as to the manner in which a portion of our sailors are manufactured, as it may not be generally understood that those particular strictures only relate to a section known as "pier-head jumpers," and not to the whole. Bad as things are in the mercantile marine—and they are bad—we still have some excellent men left, as I can testify from personal experience. With respect to continuous discharges, I am very much in favour of them; and the recent Manning Committee recommended their adoption, combined with a systematic classification of seamen. Unless some such plan is introduced, needed reforms in the mercantile marine cannot be effected. Mr. Allingham appears to disapprove of Lord Charles Beresford's view that all apprentices in the future should serve for a time in the Royal Navy, and thinks that such a course would be the thin edge of the wedge of conscription. Now, I am one of those who believe that it would greatly benefit the mercantile marine generally if every officer and man in it had to serve for a fixed period in the fleet.

If anything is done in days to come in the way of training merchant seamen, it will be the work of the State, and what is there in the nature of conscription—a word of which the lecturer appears to be afraid, but one that I think has few terrors for us in this Institution—in saying to lads, “We will train you for a seafaring life, but you must do something in return and serve for a time in the Navy.” I quite agree with Mr. Allingham that when sailors turn out badly they are often only just what shipowners and masters have made them—in fact, are frequently the victims of circumstances. With regard to the training of what the lecturer terms premium apprentices—that is, of youths apprenticed with the intention of their becoming officers—I hold a very strong opinion that when a youngster joins the merchant navy, say from the “Worcester” or the “Conway,” paying a fair premium to the shipowner, and is put to perform dirty work, instead of being taught the necessary duties of a seaman in order to fit him for his future position, that then it is a swindle, pure and simple, to have taken his money. Coming to the question of the higher education of merchant officers, I am certainly not one of those to decry the idea; but the fact remains that a good many shipowners are by no means in favour of such a course, fearing that they would have to pay a higher price for the improved article; and when they say that they would like to obtain men with superior qualifications, they do not really mean it. As regards the general teaching of navigation to apprentices on board ship, I quite hold with the lecturer that it would be an excellent thing, if it could be carried out. As one of Captain Toynbee’s pupils, I can bear testimony to the capital work that gentleman did in that way when afloat; but at the same time we must remember that Captain Toynbee—happily he is still with us—is an exceptional man of great scientific attainments, gifted with the art of teaching others that which he knows himself—the latter being a very rare talent indeed. Although I could say much upon the subject of the lecture, as I am going to read a paper on “British Merchant Seamen: their Training and Treatment,” in the City next week, I do not propose to take up more of your time this afternoon.

Commander W. C. CRUTCHLEY, R.N.R.:—I do not propose to trespass very long upon your time this afternoon, but there are one or two points with regard to Mr. Allingham’s paper that I should like to mention. In the first place, I should like to bear testimony to the great trouble and pains he has taken to write the paper, and the very great excellence of what it contains; but I should be doing wrong, I think, if I said I endorse the opinions it expresses. I must take exception to the very first of his opening paragraphs, in almost the same words as Captain Caborne has used. My experience in the merchant service has ranged from a small barque of 200 tons to a ship of 5,000 tons, and bad as the merchant service is, I never came across the scenes or the men that are depicted in the opening sentences of the paper. I must distinctly say that a very great deal of responsibility for this depends on the officers having the control of the ships; or I will put it this way: that the condition of the merchant seaman to-day is, in a great measure, the fault of his officers, who have let the men go, who have taken no pains in their training, and have expected to reap the silk purse, whereas they have only sown the sow’s ear. It was only this morning that I was in the City at the Marine Society’s office, and I heard there that about 50 boys annually are sent to the Union Company at Southampton. These boys learn service and make good men. To what do I attribute that? Simply that the officers in the Union Company, as a rule, have given a great deal of attention to the training of their men, and Captain Wait appreciates the necessity of having British seamen. He has it in his power to take these boys, and he does take them, and does a lot of good. Consequently, if other officers in a similar position adopted the same course, probably we should have a decrease in the number of foreign and indifferent seamen that have been spoken of in this paper. I am sorry I cannot agree with Mr. Allingham as to the masters teaching apprentices at sea. I almost regret that he has not kept more separate

the question of the training of officers and the training of men. I regard it as impossible for the master of a ship nowadays to teach his apprentices navigation. If they have not a little theoretical grounding before they go to sea, they will never get it afterwards. On the other hand, I hold very strongly that the Board of Trade should make the examinations far stiffer than they are, and that before boys go to sea to train for officers they should have passed either a middle-class examination at Oxford, or the College of Preceptors, or some qualifying examination. I object altogether and entirely to the idea that because a boy has been brought up in the workhouse and turned out of the workhouse, he should be sent to sea with the idea of rising to be a commander of the finest ship in the merchant service. I think the idea is wrong, and one which, in this theatre at all events, we ought to fight against. Then, again, we come to the men. I have not the smallest hesitation in saying that the Naval Reserve has kept the merchant service from going to the dogs in the case of the officers. The best results have followed from officers of the merchant service being admitted to the Reserve. I say without hesitation, and I shall be backed up by most of the thinking men in the profession, that with regard to the men the only chance of salvation for men in the merchant service is some scheme by which every man who passes through merchant-ships shall be compelled to put in a certain time in the Navy. How it is to be done I do not know, and I do not pretend to say, but any scheme will do good that does that.

Commander W. DAWSON, R.N. :—I rise with some diffidence in the presence of so many merchant sailors who know so much more about that service than I do. We have had an admirable paper, prepared by one who has passed through the mill himself, and has had opportunities of taking a larger view of things than any man who has commanded simply a few ships. Those who have lived on shore, in connection with shipping, are generally able to get a view of various kinds of ships, and sometimes see and hear a good deal more than those actually engaged in commanding a particular merchantman. There are ships and ships, and by thinking only of one class of ships it is easy to pick holes in the paper of my friend. It is very difficult, in such a large and complex subject, to grasp each particular point. The lecturer speaks well of the liners. Yet there are about 30,000 Asiatics in liners. Why are those Asiatics carried? About a couple of years ago I was speaking to the leading shipowner at a large provincial port. He introduced the subject himself, and told me that Asiatics were very easily managed, if you only attended to four things :—1. You have to attend to their prejudices. 2. You have to attend to their religious wants. 3. You have to give a little consideration to their food. 4. You have to give a little consideration to justice. Take care as to those four points, he said, and Asiatics are most easy to manage. I turned round to my good friend and I said :—"Mr. Shipowner, don't you think that if those four points were attended to in the case of British seamen, you would find British seamen also very easy to manage?" If you attend to those four points, I venture to say, Mr. Chairman—and you have had half-a-century's experience in managing British seamen—that British seamen are the easiest of men to manage. Attend to their prejudices, attend to their religious wants, attend also to their food, and attend to justice—we all like justice—and I say a British seaman will be as good as any other nationality. As to our prejudices, I was very much struck a few days ago, when travelling on the Underground Railway, with the remarks made by a Fire Brigade man who had been twelve years in ships-of-war, but had left the Navy before his time for a pension, which he would have had if he had continued to serve eight years longer. He had nothing to say against the Navy. I asked him what sort of men were in the Navy now. He replied, "The men are all right, but the officers are all wrong." I rather pricked up my ears. "The officers all wrong, eh! What is wrong with the officers?" "Well," he replied, "you know in these days young officers have been getting into the Service by competitive examinations, and the

sons of greengrocers have come in. When they get stripes on their wrists they strut the quarter-deck as if the ship cannot contain them." I rather laughed, but it showed one of the prejudices which seamen have. They like to be commanded by gentlemen. Most men would prefer to be ordered about by a Royal Duke, and if we cannot have that, or a nobleman over us, and must obey a commoner, let him be at least a gentleman—a man who has some respect and consideration for the British seamen under him. The sort of shipowners and captains to be served has a great deal to do with the question of manning the mercantile marine. Where there are good officers and good employers there are good seamen; where there are inconsiderate officers and employers there will be indifferent seamen. Depend upon it, if good British seamen will not serve under some employers and captains, the fault lies in the system or in those who administer it. Passing to the last paragraph but one, in which the lecturer enters into the question of educating officer-apprentices; the training of seamen might have been more distinctly separated from the education of officers. They are different matters. There are far too many qualified officers at present in the mercantile marine. There is not employment for all. It would be much better to reduce the number by raising the educational and moral qualifications. Remember that the State gives to the captain of a merchant-ship an extent of power which is given to no other subject of the Crown. Immense, almost unlimited and undefined powers, powers that an admiral of the Navy knows nothing of, are given to the captain of the smallest merchant-ship. If the State delegates those undefined powers to a subject, it ought to take care that the person to whom they are delegated is one likely to use those irresponsible powers properly. One of the ways of doing that is for the State to look closely to the character and education of the officer. The present standard of examination, both into character and education, might be raised so as to sift the candidates more effectually. Of late years education has increased very much on shore. The board schools have been educating everybody up, and why should not the junior officer of the mercantile marine be as well educated as the board-school boy, and even pass an examination a little stiffer than a board-school boy could pass? Why should not the State raise the respective examinations of junior officers, of first officers, and captains, and also raise even the qualification for "extra" master to a higher standard? There is no reason why technical education facilities should not be provided by public moneys. About five or six years ago I employed my annual holidays in making enquiries into this subject. Unfortunately I could not pursue the question to its end, for my own duties—I am secretary to the Mission to Seamen—happily increase upon me very largely. But I found that public bodies—the county councils and others—were quite ready and willing to bear the expense of the technical education of apprentices and of officers of the mercantile marine, if only arrangements were organised for usefully employing technical education money. A few individual shipowners and intelligent shipmasters might put their heads together and devise a workable scheme by which apprentices could be educated afloat, and officers ashore. Periodical examinations, say once a year, as far as the voyages would allow, could be held on shore. The captain might be paid by results on the progressive examinations passed. There should also be some kind of prizes or certificates awarded to those candidates who passed successfully. Public bodies were quite willing that public moneys should be advanced to pay the master or the first officer, if the master could not do it himself, or someone else on board a ship which carried apprentices, to conduct the studies afloat. They were also willing that nautical schools for officers should be set up by public moneys. I enquired of the County Council and the Board School of London, and so on, as well as in the great seaports of the North, and at some of the smaller seaports. I had before my mind two distinct kinds of shore schools—one for what may be called "illiterates," for whom the School Board would probably have provided, and the other for the technical education of

officers, which the County Council and Technical Education Department would have been willing to provide. There was no question of limiting the money; so much so that I was a little startled myself, because they were prepared to go much further than I had contemplated. If I could have provided a building they were quite prepared to advance £2,000 in order to provide the necessary technical apparatus for the school, independently of allowances for the masters. This showed that there was no unwillingness to act if any pressure was put upon them by those who had a right to speak, and public moneys were met by funds from other sources. Of course, I had no such right to speak for anybody, as I was only acting personally; but anyone who had a right to speak for the merchant navy had only to come forward and show that some practical working system could be organised and set in motion by which the officers could have these great educational advantages when on shore, and the public money would be forthcoming. There is no reason why such technical education should not be carried on afloat as well as on shore. Officers going through a certain course might take suitable books to sea to study while serving on board ship, and resume their places in the class again to continue their studies at the end of their voyages. I have not the slightest doubt, from my own enquiries, that suitable arrangements could be worked out very easily if there were only some leading persons conversant throughout with the manifold workings of the mercantile marine to take it up. I do not at all see why the captain of a small coaster should have quite the same powers and position as the captain of a big ship who has one or two hundred men under his control. When ships carry a certain number of seamen or passengers a surgeon has to be taken: why not also a specially qualified captain? There should be, first, the second mate's examination, then the first mate's examination, then the master's examination, and following that the "extra" master's examination, which should carry with it the sole right to the title of commander, and sole capability to command a vessel requiring by law a surgeon. Nobody should be allowed to take the command of the lawful number of men unless he had qualified himself as "commander," and the powers delegated to him should exceed those of a "master." Public authorities should not give to a master mariner who is commanding half-a-dozen seamen quite the same powers as to the man commanding a hundred seamen. With regard to the "illiterates":—forty years ago, when I was serving in a ship as a young lieutenant, I took some pains, under the authority of my captain, to get up an adult school, and about a thousand seamen in that ship passed through that adult school. The attendance was entirely voluntary, but all except one man, who gave me great grief, attended that school. I did not teach in the school myself—the petty officer who undertook that part of the work had himself to be taught step by step. We began with the first four rules of arithmetic; we went on to the rule of proportion and fractions, thence to plane trigonometry, and finally a navigation class was established, entirely for the foremast hands. I never got more comfort or pleasure from anything attempted on board ship than I got from that school. Seamen came up to me twenty years afterwards to express thanks for what had been done for them. They said I was the first person "who had put it into their heads to better themselves." Personally, I did comparatively little in the matter. The arithmetic work was entered in work books, which were a kind of copy book. These were placed in my cabin every Saturday to be examined and initialled, showing that I took a personal interest in their progress. Once or twice a week I looked into the school, and showed a personal interest in the scholars. We had a quarterly examination on board of the men in the different classes, and gave prizes, and so on. I gave a number of lectures on astronomy, natural history, and nautical subjects, etc., illustrated by magic lantern, or wall diagrams, often prepared by seamen, who thus had a share in giving the lectures, while others kindly helped in this part of the education given on board that ship. It gave very little trouble, as the whole thing was an

amusement and pleasure to me, whilst it was a great benefit to seamen. If "illiterate" classes could be established on shore at home ports, it might keep merchant seamen out of some mischief by giving them pleasant employment for evening hours. Nothing gives such continuous employment as school. Religious exercises and concerts only employ a limited amount of time, whereas people never get tired of school work. The chiefs of the School Board of London saw their way to opening such a school if space could have been provided in a building frequented by seamen. I had not time, however, to work out a scheme, and so the project came to an end. This, at least, shows that there is a great deal in that last paragraph but one of the paper, and I would commend it to the attention of those interested in the welfare of the mercantile marine. The whole standard of life and comfort and education in the mercantile marine must be raised, and if we are faithful in doing the work given us to do in life it certainly will be raised.

Mr. FREDERICK WOOD :—The paper naturally divides itself into three heads : as regards officers, men, and apprentices. With regard to the officers, the intelligent foreigner coming here and having this paper put into his hands would certainly have very false impressions. He would have an idea that the officers of the merchant service are a peculiarly inefficient and incompetent class, with some few exceptions. The truth is that there are too many highly-educated, well-trained, and qualified men. It is pitiful to see the number of officers looking for employment. The number of ships has not increased materially since the beginning of Her Majesty's reign. The tonnage has increased enormously, but the ship, however large, has but one captain, therefore the chances of promotion are worse than they were sixty years ago. It makes me feel sad when I see those splendid floating colleges taking out a number of young gentlemen whose friends pay a heavy premium to enable them to command a ship, and think how few of them will ever reach the promised land ; how many of them are destined to perish by the way in the wilderness. There is already an overflow of persons highly trained and highly educated. There is the "Conway" and the "Worcester" at work, and there are also Devitt and Moore's ships, and many other vessels training these young gentlemen whose friends pay premiums. There never was a scarcity of officers in this world at any time, even after the French Revolution had occurred. There was more promotion, but the vacancies were very soon filled up. The question of officers, I think, we may leave to itself ; the supply very greatly exceeds the demand. As regards their education, the Board of Trade has raised the standard since 1st January—frightening many applicants away. With regard to the sailors—the engagement of foreigners—there opinions may differ. Naturally, our own patriotic feelings would lead us to suppose that British sailors are the best, but this fact remains—that there are not British sailors sufficient to man the British merchant service. The supply of British merchant seamen—and when I say seamen, I do not mean the people who push against one another at the cabin companion, but the men who fill the forecabin—the supply there is far from equal to the demand. Whether the shipowner likes it or not, he must employ foreigners if he would get his ships about. Why is that ? If the owners will not take boys on the deck (they take plenty of boys for assistant cooks and stewards), where are the sailors to come from ? They do not grow ready-made ; they have to be trained. A sailor is a skilled workman. He has to learn his business as a boy. The supply now comes from the fisheries, because in the fisheries they do take boys. I believe there would be ample employment for a very large number of British sailors if we could get them. The British sailor, as I pointed out thirty years ago, is slowly becoming extinct, because boys are only taken with premiums, boys who want to be officers. There is a great and dangerous dearth of British seamen. I am not going to depreciate the foreigner—there are very good seamen amongst them ; but in time of national peril we could not



depend on the foreigner or call upon him to assist. The power for the Queen to compel service still remains, but we could not call on these men to make them join the fleet in time of peril, and therefore it is absolutely against our national interest (and is a national danger) that the British seaman should become extinct. The remedy, in my humble judgment, is not to give premiums with apprentices, and not to try to establish any school or bribery of that sort. I will venture to advocate a very simple system, namely, that the Royal Navy should take about double the number of boys it takes now. They get proper training in habits of discipline and obedience, and they would learn those things better in their early days than later on, and in any time of national peril they would be able to go back to their old station on board a man-of-war. I think that would be a very great improvement, and the only possible way that I can see, because with regard to training-ships we have more of them now than we can use. What is the good of training-ships if the owners will not take the boys from them on deck? We have more boys on training-ships now than we can get away to sea. Half of them have to overflow into shore occupations, because, rightly or wrongly, the owners will not take boys for the deck.

A MEMBER: Why?

Mr. F. WOOD:—Because they cost more to carry than they are worth. Ship-owners say that if they take them for apprentices they run away. That may be true, but if all ships took boys it would not much matter if some of them did run away. It would still keep up the supply of men. Coming to the technical question about the indenture, I will venture to tell the lecturer that he need take no further advice nor consult any more authorities. It is clear, plain and distinct beyond all dispute that an indenture only binds the owner to teach the boy to be an able seaman. If the parents of the boy want anything additional, they should put it in the indenture. A great deal of the misunderstanding is caused by the parents expecting a great deal more than is ever promised. The indentures should be executed at the Mercantile Marine Office, and not in the owner's office. Beware of indefinite agreements. A man of mature years cannot be trusted to go from here to Dantzic without the interference of the Government. It must be a proper agreement, executed in duplicate, and so on. But the boy, utterly ignorant of anything connected with seafaring matters, can be taken to an owner's office and bound for any number of years, until he is twenty-one. His parents (or his guardians, if he has no parents) may be quite as ignorant as the boy, and there is no impartial person present to say, "Well now, you understand it is so-and-so, and you must not expect more than is set down there; and if you want anything more than that, it should be added to your indenture in writing." There is no impartial authority to say what is promised by the owner or what is expected by the parent. That causes the confusion. The form of indenture is drawn up properly for the time when ship-owners took illiterate boys simply to train them to be sailors. That is all that is foreseen in the indenture; anything more than that should be added in writing.

Mr. E. H. LITTLE, C.E.:—I think this paper is distinctly discursive, and lends itself to a great deal of criticism. I, like Mr. Allingham and my friend Captain Blackmore, have been writing on this question of education for the last fourteen or fifteen years. I am also a *corpus vile*, in that I have made the experiment of higher education on my own person, and I say it is not wanted. Ship-owners do not require, and never are likely to require, educated officers or men. The seaman is becoming the unskilled labourer, and the whole trend of modern improvement is to require less and less skilled labour. That is the lesson taught us by this late engineering strike. We are lending all our energies now to the production of machinery, requiring less and less skilled labour. As some very distinguished admirals have pointed out in the columns of the *Times*, navigation is not a matter which requires very much knowledge. It is a matter of applied common sense, and there is no necessity for having highly-educated officers in

the merchant service. In the Royal Navy there is a difference. There the naval officers (especially the gunnery and torpedo men) have to be, practical engineers. They do not like to be called engineers, but they are engineers, and nothing else. It may be news to some gentlemen in this room, when I say that in the United States Navy a proposition is now before the Senate for the union of the two branches of the naval service, officers and engineers. That has been a bone of contention with us for very many years; but Admiral Sir Astley-Cooper Key, I think it was, some twenty years ago, advocated this change. I have also advocated it. I think Captain Crutchley will remember taking me to task in connection with this matter. I think it is bound to come. The merchant seaman, as I said, nowadays is not a skilled labourer; he is a deck scrubber. It is only when he goes into the Royal Navy that he learns anything. Put him on board a naval ship, and what can he do? What can the merchant officer do? He can assist in the navigation duties, but very little more than that. It is only after a course of instruction in the Royal Naval College that he can be of service to his country. In regard to the contention with reference to the necessity for higher education in the merchant service, I may say that I entered the Royal Naval College, spent some time there, and passed the examinations very creditably indeed, but the education I obtained has not been the slightest use to me on board ship. I never found a shipowner or a master who wanted it. As a matter of fact, it has lost me three or four ships. I was in one Baltic trader, and I was supposed to be more or less an authority on stability. I pointed out to the master of this tramp steamer that in putting 200 tons on the bridge-deck he was endangering the ship. He remedied the matter, but the consequence was I was not wanted again. On another occasion I was in a tank steamer, and the master of that boat wanted to wash the decks down with crude petroleum. I pointed out to the master that he would probably blow up the ship, and I took measures to prevent him carrying out the absurd project, with the result that when I got back to port I was not wanted. Occasionally we see cases of ships being lost through the ignorance or incompetence of the masters. I can remember even mail-boats lost from this; but these cases are the exceptions which prove the rule, that we do not want educated officers. We have many hundreds of officers who have made voyages in all parts of the world, and it is just those very few exceptions to safe navigation that show that we can undertake all duties of navigation without very much skill. The Carthaginian sailors who sailed to our islands had not what we term "education," but they had common sense. A very distinguished engineer, I think Sir Benjamin Baker, who built the Forth Bridge (or was it Mr. Thornycroft?), has said that the highest engineering is simply applied common sense; and after all, applied common sense is what is required on board a ship. There is no doubt it is desirable, from a patriotic point of view, to have well-educated officers and seamen, but they are not wanted by the shipowner; and why should we ask him to pay for the education and training of these men? I do not think Mr. Allingham should gird thus at the shipowner, nor at the shipmasters for not spending the "dog-watch" (*sic*) in training apprentices. Why should he? The State will not pay him for it. When the State wants these highly-trained officers and men, no doubt the State will find means of getting them. I cordially endorse the idea that we ought to send boys into the Navy, because I believe that is the best school we can have either for officers or men.

Lieutenant H. ACTON-BLAKE, R.N.R. :—I quite agree with Mr. Wood in what he says. It would be a good thing if the boys could be put through the Navy. The want of discipline in the merchant service is very great indeed; and although Commander Dawson seems to think the master of a ship has a large amount of power, he is not able to enforce it in the same way as discipline is enforced in the Navy. I, for one, should like to see a system of short service in the Royal Navy which could enable the Navy to assist the merchant service, as well as the merchant service to assist the Navy.

Captain F. L. CAMPBELL, R.N. :—The discussion generally seems to have tended towards the education and training of officers. It seems to me that very little has been said about the men, especially that large class employed in ocean tramps. These men get no training, and may be divided into foreign and British, nearly equal in number. The lecturer has suggested that to improve the mercantile marine they should have more training, continuous discharge certificates, and classification, which I understand means examination for rate of A.B. As regards the foreigners, I do not see how the continuous discharge certificate would answer. In a great number of cases they are shipped abroad, discharged abroad, and may have served in foreign ships in the intervals. As regards the British element, it is recognised that these certificates are made out in a very loose way by the captains of tramps, men being noted as A.B. without having served their four years, as laid down by the Board of Trade. The above remarks equally apply to the suggested classification of seamen. As regards the more complete training of boys for this class of steamer, the lecturer states that in 1896 there were 760 boys who were supposed to have gone to sea in trading steamers from the boys' training-ships, whilst the Registrar-General of Seamen reports in the same year that there are not half that number of boys and ordinary seamen under 16 years of age serving in this class of steamers. Under these circumstances it does not seem to me much good highly training a number of boys for the sea of whom only a very small proportion makes the sea a profession. The whole question seems to me to resolve itself into this: That until you give the men serving on these tramp steamers decent living and clean quarters, you cannot expect a respectable class of man to take up the profession of sailors—at any rate, in this class of ship. In all the steamers of this class which I have been over the accommodation was such that no man brought up in a man-of-war, or boy brought up in a training-ship, would dream of putting up with. One cruise would be quite enough; he would never wish for a second. A boy from a training-ship and a man-of-war's man have been trained to keep themselves and their things clean; they are accustomed to decent food and to have a decent place to live in, and a sailor's life on board a tramp would not suit them. It has been suggested all seamen should serve in a man-of-war before serving in the mercantile marine. Men-of-war's men would not serve in these tramps; they do serve in the big liners, where one is continually coming across Reservemen and pensioners. The class of British one finds on board tramps are mostly men who began their sailor life by being picked up from the wharves or jetties by some ship in the home trade short of a man. They are without training, and are not seamen when they join; they get their certificate at the end of the cruise, and are then started in a new profession. These cargo steamers, I am sure, must have a bad effect on the supply of seamen for the mercantile marine. They are continually being met with in the ports around our coast; and any lad who had an idea of taking up the sea as a profession, after seeing the accommodation supplied to the seamen on those ships, would probably give up all idea of it, and return to his plough, where he would be a good deal better off.

Captain E. BLACKMORE (Mercantile Marine):—I should like to say one word before the discussion closes. I think the crux of this question of education in the merchant service lies with the shipowner, and until we can bring pressure to bear on the shipowner and make him aware of his own interest and of his duty in regard to the question, we shall never proceed a whit further than we have got at the present moment, after years of labour and fighting and talking. Mr. Allingham's paper has referred to technical education on shore, and he considers that employers on shore are always willing and earnest and regardful of their apprentices, and endeavour to get them educated. I know that for a fact; I have been a longshoreman as well as a sailor, and I know, after 25 years' experience in an engineering factory in Scotland, that we all of us put our shoulders to the wheel and took care to see that our apprentices were fairly well educated. We took advantage of all that South Kensington

could offer to us, and in every respect we got plenty of pupils for engineering and the other branches. But in getting up a class for navigation in the town, such as I tried to interest myself in, we utterly failed. We could not get a scholar. Until the shipowner sees his way to do like other employers, and lay out a little money or give a little care to the education of his officers as well as his men, we may talk until we are black in the face, and we shall never proceed a step farther. We may do something with regard to educating men for the Navy: there is no doubt about that; but I quite agree with the gentleman who has spoken last, and I should like very much, if it were possible, to see every British sailor educated for the Navy, but I am satisfied from my own experience that if the men are once educated and accustomed to two, three, or four years on board Her Majesty's ships, they will never take to a British trading-ship, except one of the mail liners. That I am satisfied of. They could not do it. The condition under which they exist in sailing-ships and tramp steamers of the present day, as a speaker has just said, is such that they would not put up with it for a day. Therefore, until we can impress upon the shipowner the necessity of a better class of men all round, whether officers or men, we shall not do any good whatever. I think it is to the disgrace of shipowners—I stand here to say it—that they are the only class of employers in Great Britain who do not spend one farthing in the education of their men.

Mr. GEORGE QUICK (Fleet Engineer R.N.):—May I venture to say one word before the closing of the meeting? I am, unfortunately, not a shipowner, and therefore I cannot say much in defence of them; but I have heard a great deal about the duties of the shipowners to the men, and perhaps it is very necessary that something should be said on the other side. What I do object to is, that there is too much coddling for everybody in this country. The poor, dear working-man is to have everything, and he is brought up with the idea that he owes no duties to the State, but that the State is under great obligations to him. I am sorry to say that so far from our being able to get good men for the mercantile marine, we shall not do it, whilst those principles prevail in all schools and other public institutions. There is too much of luxury preached for everybody. The proposal made by one of the speakers for getting farmers' sons to join training-ships in order that they may qualify for the sea will never be carried out, because you cannot even get them to work for good wages on shore. All the craze is for a kind of mental education; possessed of that, they will do no manual work whatever. They expect to be paid by the State, or some unknown power, for their educational acquirements only, and for doing absolutely nothing. The whole object of the Englishman's life appears nowadays to avoid manual work, and I think the sooner we have conscription in this country the better it will be, so that all men may be taught some duty to the State as well as to themselves.<sup>1</sup>

<sup>1</sup>The late hour prevented my mentioning the difficulty which farmers and other employers of labour find in getting men or boys to do any work in the country, although we hear so much of want of employment in the towns. What we want, to turn our boys into good men, is more of the drill sergeant in all our schools, and less of the cramming schoolmaster. The boys who have acquired the habit of physical obedience to the word of command of the drill instructor will make better mechanics, better labourers, and better sailors and soldiers, and better citizens in all ranks of life than those whose physical training has been neglected for the sake of that mere mental knowledge, which is such a useless drug in the market. Briefly, the education of the body should be carried on equally with the education of the mind in all our State and Voluntary schools, so that the whole race may be well disciplined; and then we shall have the raw material thoroughly well prepared for manning the mercantile marine, the Royal Navy, and for maintaining the manufacturing, the commercial, and the military supremacy of our Empire. Without that physical training in all our schools we must take a back seat, far behind those noble nations which make military service obligatory on all their able-bodied citizens.—G. Q.

The CHAIRMAN (Vice-Admiral Sir N. Bowden-Smith):—If no one else has anything to say, I will make a few concluding remarks before we bring the meeting to a close, and I will make them as short as possible in consequence of the lateness of the hour. I will say nothing with regard to the question of the supply of officers after what has fallen from Mr. Frederick Wood, because I believe what he says is correct, namely, that there are a great many more officers waiting for berths than there are berths to receive them. I will go, therefore, only into the question of the men. I remember some years ago taking up a cookery book, and looking through it I came across the receipt for making hare soup. The first thing I read was "First catch your hare." You have first to catch your seaman, and you must get him as a boy or man, for no one is born a seaman. I am one of those who think that if you can get him young to sea it is all the better, for it is an unnatural life, and sailors are more likely to remain at sea if they begin as boys than if they are taken as men. The statements made this afternoon about training-ships very greatly astonished me. I do not know much about the interior economy of a merchant-ship, but I do know a great deal about training-ships, and I have been myself on the committee of the Marine Society's training-ship, the "Warspite," for 20 or 25 years. It was stated by the lecturer, speaking of the "Indefatigable," at Liverpool, that they could not get their boys out after passing through the ship, and another gentleman stated that the ships would not enter boys. Perhaps it will surprise you, therefore, to hear that we have no difficulty whatever in getting out our boys from the "Warspite." We get as many boys to sea from the "Warspite" as we can train. It may be we take great care in their selection. In the first place they are obliged to be of good character, and we take no boy who has been convicted of any serious offence. They also have to pass a very strict surgical examination, the question of good eye-sight being specially considered. We have also shipping agents both at Cardiff and in the river, which may account for our success. Captain Henderson Smith said that he thought the Government ought to place more training-ships about the coast. With regard to the training-ships in the River Thames, we have more ships than we can find candidates for. I will begin first with the "Warspite," which can berth comfortably 250 boys or even 300 if necessary. The "Arethusa," worked on very much the same lines by the National Refuges Society, and started by Mr. Williams some years ago, can also hold 250 or more. Those two ships have during recent years only averaged, as regards the "Arethusa," 170 boys, and as regards the "Warspite," 180 or 190. Of course, it is partly a question of money, but both these ships are now touting for boys. If we enter waifs and strays and pay no attention to the size and character of the boys we could doubtless enter plenty, but in that case we could not place them after they had passed through the training-ship. As I have also previously stated, the medical examination is a strict one, and from eight to ten per cent. of the boys are rejected in consequence of defective eyesight or colour-blindness. It would therefore be unwise to establish more training-ships—at all events in the Thames—if we cannot find sufficient suitable candidates to fill those we have at present. There is, in addition to the two ships mentioned, the "Exmouth" at Grays, supported by the London Unions from the rates, which can hold 600 boys, and which is usually pretty full. There is a fourth ship, the "Cornwall," at Purfleet, but she is a reformatory ship, and boys are sent to her as they are sent to a reformatory school. She holds about 250 boys, and I am sorry to say she is usually full. I think the lecturer is a little hard on his country and on our Government when he says that while Englishmen sit still with folded hands, the Government of the United States have lent suitable ships and supplied officers, etc., for training purposes. I do not think he can be aware that the Admiralty do lend ships to societies for training seamen. The "Warspite" is lent to the Marine Society by the Admiralty, and if the present ship

(now being surveyed) proves to be too rotten for repair, their lordships have promised to lend us another. I do not know what assistance the Board of Trade gives the various training-ships, but as far as the Admiralty is concerned, they not only lend ships but give money grants for certain boys who enter the Navy. As regards the practical training of these boys, of course we do not pretend to be able to make them seamen, but we do accustom them to cleanliness and discipline. You can teach them also the compass, to pull an oar, to use a palm and needle, to mend their clothes, and to handle the sails aloft as far as that can be taught in a harbour ship. There is something in the British youth which seems to lend itself to this training-ship system, and it is wonderful how the boys improve in appearance and physique after they have been two or three months on board. There is only one more question I will touch upon. The lecturer said we ought to have shore schools at San Francisco and other places in which to train our young officers whilst their ships are lying idle in those ports. I do not see myself how that is practicable, nor who is to supply the necessary funds. I am sure you will all agree with me, in conclusion, that the matter of training our merchant seamen is one of great importance, and that I am only expressing the opinion of all present when I say that our thanks are due to the lecturer for this paper on that subject.