



On the Unprotected State of British Commerce at Sea

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Friday, April 12, 1889.

CAPTAIN SIR JOHN C. R. COLOMB, K.C.M.G., M.P., Member of Council, in the Chair.

ON THE UNPROTECTED STATE OF BRITISH COMMERCE AT SEA.

By Lieutenant W. C. CRUTCHLEY, R.N. Reserve.

It is some years since I first had the honour of reading a paper in this theatre, but the time which has passed since then has merely strengthened my convictions that the subject-matter then dealt with is of great and absolute importance to Great Britain generally. I have watched with the greatest interest and pleasure the steps which have already been taken for the better security of our vast properties at sea, and the only way in which one can find fault is, that they do not go far enough, and so I say, "Yet for a man may fail in duty twice, and the third time may prosper."

I do not know that the foregoing words are quite appropriate, but they come to my mind as a reason for another effort to bring this great subject forward. With all Europe an armed camp, with Britain the avowedly first enemy at which ambitious Powers would strike, with the knowledge that failure on our part to protect ourselves would be irreparable, we still continue to display a singular disregard to the claims which our enormous properties at sea undoubtedly have to be protected from the hands of covetous neighbours, and this disregard I feel convinced is solely because the majority of people have never grasped the meaning or magnitude of the question at issue.

I think that my remarks may be classed under four heads—

1st. The necessity of protection of our trade at sea at the commencement of war.

2nd. What would probably happen under existing circumstances on the particular routes touched upon.

3rd. The necessity of an organization of mail steamers to assist the first point mentioned, and the urgent necessity of arming them.

4th. Sketch of a plan of convoy for the Cape route, and some remarks on the vital need of such depôts as the Falkland Islands and Sierra Leone.

In approaching this subject, I must say that I do so with great diffidence. I should scarcely care to be considered an alarmist; but

all the discussions which have taken place lately on the subject of our Navy have, as far as I have seen, been solely confined to the ability of our men-of-war to meet successfully those of our possible antagonists; the protection of the greater part of the commerce of the world has not been touched upon at all, and it is in the hope of assisting to prevent the temporary (it may be) stoppage of this commerce that I have provoked the discussion that I hope will follow the reading of this paper. I do not think that landsmen quite realize the havoc that it is possible to work amongst unprepared merchantmen on the sudden outbreak of war, and I scarcely think that the powers that be care to grasp the question. We have arrived at a period of history when the struggle for wealth, both individual and national, assumes vast dimensions. It is all very well for statesmen, living in their ideal world of hatred of war and injustice, to say that war cannot be permitted on the score of its unreason and brutality. Even the most modern history shows us that a firm and prepared front is the best safeguard for peace and its blessings; and the outspoken words of a celebrated Frenchman, that twenty fast and well-found cruizers would ruin the commerce of Britain, is approaching more closely to the truth than is at all desirable from the British point of view. The fact remains that, at the time of the last war scare, there was an utter absence of any information amongst merchant-steamers leaving port about that time, as to what was to be done in the event of war, and, as at present I do not know that we are any further advanced—presumptuous though it may appear on my part to advance theories on the matter in the face of the great authority that recently stated that it was impossible to arrange even a system of signalling between men-of-war and merchantmen—I must, with every respect, confess my inability to see where the difficulty lies, and I think it quite within the range of practical measures to ensure a far greater amount of safety for, or to, our steam tonnage in war-time than it is now in possession of.

Without going into absolutely accurate figures, my statistics, as follows, are taken from the "Statistical Abstract for the United Kingdom for 1887." By that authority I see that the import of grain into the United Kingdom is valued at over 48,000,000*l.*, that various other articles of food, such as meats, both fresh and preserved, cheese, potatoes, and tea, come to another 31,000,000*l.* per annum. That this is a startling fact I think will be admitted when we know that England is victualled for three months at the longest, and when we consider the fair probability of the stoppage of our food supply at the commencement of a maritime war; what would this mean to the enormous masses of the working class, who find extreme difficulty even now in keeping soul and body together? To compare small things with great, what happens if snow delays the ordinary traffic to the metropolis for three days? And what would happen were our grain supply to be cut off even for one month? There would be such internal misery and dissension that one might well shrink from the contemplation of the hideous pictures that ordinary foresight could freely paint. We know the excesses to which a French mob

can run, we lack the experience fortunately of the capabilities of an English one, yet recent Trafalgar Square riots show what excesses can be run to, even under an exceptionally strong government, and it requires no great stretch of imagination to foresee the possibility even in our own time of a repetition of the Commune should the food supply of England once really fall short of the amount necessary to feed the masses of the population as they are fed to-day.

I have found it useful of late years, when thinking over certain things connected with life on board ship, to say to myself, "What is the worst combination of circumstances that can possibly happen?" and, having made up my mind what the worst could be, I have added an *x* to represent the unknown, and then prepared to the best of my ability for what was to come. It is a plan that I think has its merits, for although on suggesting that a certain contingency might arise, one is usually met with the answer that it is very unlikely, the fact remains that it is possible, and so I contend should this same question we are now discussing be looked at.

I spoke just now of a fair probability of the stoppage of our grain supply. Is there a fair probability?

Whatever the relative strength of our Navy may be when compared with that of France, I will assume for the sake of fair argument that it is equal to the combined warships of France and Russia. Not all our Naval experts, perhaps, would admit that it is so. There can be few more difficult questions than the relative theoretical strength of navies or warships, but that is not the point just now. Were we at war with France and Russia combined, what remains to protect our commerce against the dozens of fast raiders that would be turned out in all directions to capture our merchant-men? The "Alabama" was no question of a warship. She was no better able to fight a battle than a very second-rate merchant steamer could now, and she sunk in her first engagement; but she was a raider that destroyed the commerce of America afloat, and drove its trade to foreign flags in such a manner that even that vast self-supporting nation has been unable to regain its place on the sea.

That happened at a time when commerce was small compared with what it is at present, and when speed at sea was not anything near its later developments. These two factors taken together mean an increased rate of destruction in war-time, and the entire captures of the "Alabama" could be easily eclipsed in one week now by one fast and very moderately armed merchant cruiser. This is no question of speculation. We know exactly in which direction our enemy would strike at us, and it would be at our weakest and most vulnerable possession—our shipping. I hear it frequently said that in the event of war our ships are to be transferred to a neutral flag. What is intended by that phrase I fail to understand; scarcely any collection of neutral flags could take over our ships and work them; and even supposing such a plan were in readiness, would an enemy of ours respect such transfer? I think not, and even were they to respect the ships, France recently declared rice contraband of war, and so even the neutral flag would be unable to continue our grain supply

under those conditions. But, assuming that this transfer were possible, what is the result? Trade follows the flag, and our ships under a neutral flag would mean simply ruin to England. I cannot conceive anyone calmly contemplating the transfer of our ships to foreigners. Our ships sailed by men of the nation under whose flag they sail; our seamen idle and earning nothing, the shipowners with their realized capital laid up and unable to use it (supposing it were realized), and our one big trade gone. I confess to have no liking for the picture. Our stronghold is the sea. We have claimed the mastery of salt water for centuries, and it would be a poor climax now to seek the cover of a neutral flag, and confess our inability to protect our own. Here I cannot resist quoting from a speech of Sir C. W. Wilson, at Bath, 1888, before the British Association:—

"I may add here that if there is one point clearer than another in the history of commerce, it is this—that when a State cannot effectually protect its carrying trade in time of war, *that trade passes from it and does not return*. If England is ever found wanting in the power to defend her carrying trade, her fate will only too surely, and I might also say justly, be that of Venice, Spain, Portugal, and Holland."

It may be said that the subsidized steamers on the Admiralty List will be quite equal to this work, I mean that of looking after an enemy's raiders. Doubtless, they would be if there were enough of them fairly started with their enemy in view; but this same fair start requires greater consideration than it has yet received.

They could not satisfactorily be taken from their own routes. The want of them would be too surely felt, and the need of them too vital, as I shall endeavour to show later on—and to sum up this part of my argument in a few words, there is the commerce of England at sea practically undefended: hostile armed merchantmen hastily and perhaps indifferently armed, but flying a Government flag, would take our vessels at a disadvantage (especially Russian cruisers expressly intended for this purpose), and the result would be the disappearance of the British flag as the carrier of the world, to be replaced by the stars and stripes, and Teutonic and Scandinavian emblems.

The foregoing remarks have, I hope, pointed out the necessity for protecting trade at sea on the commencement of hostilities, and the absence of means for doing so at present. There is our Navy; the largest and best steamship company in the world, but still too small for the work it has to do, and so must either take in more capital, or amalgamate with someone that can help the work in hand. Perhaps both courses might be adopted with advantage.

The question as to what would probably happen on all the trade routes of the world, under existing circumstances on the outbreak of war, is far too large to be dealt with on such an occasion as the present. The ocean trade routes of the world cannot be glanced at even, within the limits of this paper. The subject also requires a greater amount of detailed knowledge than I can pretend to bring to it. I therefore propose to confine my remarks to the trade that

would probably spring into existence between the two great Capes and the Channel. But first, I should say a few words on the probable method of dealing with captured vessels—it is a large field for speculation.

In the late Naval Manœuvres it happened that several merchant-men were brought to by cruizers, and captured and released—now what does this mean? It means simply that vessels employed in their peaceful avocations, in utter ignorance of even sham warfare, were stopped by a shot being fired across their bows. So far, the proceedings might have been the same had it been reality; but in place of releasing the captive to pursue her voyage with a mark on her to show she had been taken, what would have happened in actual warfare? What would an enemy have done with the captured vessel? Let us assume her to have been a P. and O. ship with a large crew and a number of passengers: I will suppose her to have a crew of 120 men and 200 passengers, and that four days' fair steaming would take her into an enemy's port, either one side or the other.

In all the discussions which have cropped up on this subject of merchant shipping in war-time, the Declaration of Paris has always formed an important item of the debate. By many it is looked upon as an unmitigated blessing bestowed on Great Britain—by others it is regarded as a great mistake on our part, and one that should be repudiated without delay. I cannot say that I am of this latter opinion—this treaty, in spite of some alleged informalities, was undoubtedly entered into in furtherance of the interests of modern civilization—it was subscribed to by the Plenipotentiaries of the majority of the Great Powers of the world. But I cannot believe that it was the intention on the part of the representative of Great Britain to place that Power in a far worse position than its neighbours—I say *far* worse, because with a frontier which, for us, is bounded by the farthest shore of the sea, our outposts by the generally understood meaning of that document are to be simply unarmed patrols—that having the eyes to see and the strength to act, they are to be deprived of all or any means of defence, that strong and speedy though they may be, they are to have no refuge, save in flight from the meanest and least powerful of an enemy's vessels, and in proportion to our greater number is the power of a possible enemy to inflict damage which could not be returned by us in similar coin. The worst part of this is, that we should be unable to profit by our national trait of taking the first beating kindly—that meaning that we should cease to be the market of the world, and therefore hopelessly ruined. My reason for these latter remarks will be more apparent as I proceed.

Now the Powers that can fit out privateers are three, viz., Spain, Mexico, and the United States, and it would be difficult to imagine less likely adversaries. Privateers having to take their prizes into port for a legal decision as to right of capture, and the Great Powers having forfeited the right, or rather having given it up voluntarily to fit out privateers, it would be necessary that the vessels preying upon our commerce should possess the licence to sink, burn, or destroy:

and this power is only possessed by a man-of-war or a vessel fitted out by the State with that end in view.

There are three courses open with a captured liner. To send her into port with a prize crew.

To take the people out of her and sink her, or to sink her as she is.

In the first case, what sort of a prize crew would be required? It would need Officers, engineers, and men, and even if every man of the prize crew had a belt full of pistols, to compel the original crew of the ship to work, when away from the guns of the captor they could not do it, unless in fairly strong force, say fifty all told, and that number would be a serious drain upon any ship's company. Could less do it? Knowing something about a ship's engine-room, I doubt it.

A torpedo-boat would be a far better escort, and if the ship were unarmed, would be the best thing.

If again it were proposed to destroy the capture, what could be done with the passengers and crew, including, perhaps, women and children? There are three courses open. To have in readiness a tender to receive them, equally as fast as the captor. To take them on board the captor, a course open to many objections one need not particularize, or to place them in their own ship's boats, if there are boats enough, and turn them adrift. A great objection to all these methods would be the loss of time taken up in pursuing any one of these courses.

In Mr. Kinglake's History of the Crimean War there is a very interesting chapter relating to the *Coup d'Etat* of Napoleon the Third. In it he enters exhaustively on the different kinds of slaughter of non-combatants, as compared with the shooting in Paris on that occasion. I do not find in it any trace of a case similar to the latter one, and it might, perhaps, be fair to assume that to a humane captor, a passenger ship would be a sort of white elephant, if captured when far away from a home port; something may, perhaps, be said on this subject as against arming them, and thus rendering them combatants. But I am afraid that modern warfare will probably eclipse in its rigour anything the world has yet seen, and in the endeavour of an enemy to damage the commerce of England, no consideration of ruth or humanity would be entered into. I hope I may be and am mistaken, but I think that ships would be sunk promiscuously whenever and wherever they were found, and that this would be carried out even by humane Officers as necessitated by the needs of war.

I presume that no probable adversary of ours could fit privateers without our being also able to do so, so that if it comes to arming merchantmen to do duty as men-of-war, we ought to have the advantage.

With the Suez Canal blocked, which is only a fair risk to take into account, and is moreover a probable contingency, and certainly a point for which an enemy would strive, the trade from the East would naturally be diverted to the Cape routes, not even altogether because of the stoppage of the Canal, for it is a question whether fast vessels would not rather trust themselves to the open sea if they were

sure of their coal supply, in preference to narrow waterways like the Red Sea and Mediterranean, unless they were well convoyed. Now we know that men-of-war, even if they could be spared from near home, do not care to keep the sea long, and steam long distances. It is nearly 6,000 miles to the Cape of Good Hope, and how long would it take to get the vessels out there that would be required on the outbreak of war to protect the trade that would centre in Table Bay: if there were war next week, what armed ships are there to protect it? The "Raleigh" and the "Penelope," with a few smaller cruisers. I don't think that the weather on the Agulhas bank would suit any of them very long, and I should say that three vessels of large coal capacity with Réunion or some port in Madagascar for a dépôt or coaling station, could, if sent out by an enemy, have a very pretty hunting ground for their undisturbed amusement for some considerable time. I have the French Messageries mail steamers in my mind as I write, and nothing on the Cape station at present could catch them at sea; so far as men-of-war are concerned, there would be little trouble there on the subject of passengers, and Jack adrift in an open boat would excite no great amount of sympathy; he is used to drowning.

While on this matter concerning the Cape of Good Hope, and the natural convergence of trade to it in war-time, I should point out that from 5,000 to 6,000 tons of coal is the usual stock in the place—the import was 110,000 tons last year, and that only sufficed for the ordinary traffic, so that unless the coal-fields of Natal develop largely, this item will prove a serious source of trouble. The coal import there is largely done by Italian sailing vessels, but as there is little doubt as to coal being contraband of war, I don't see that it would help us much—it would be curious to see Table Bay full of steamers waiting for coal: true, they would be in comparative safety, but what about the people at home who are waiting for the supplies thus detained?

Now take the Cape Horn route and the trade by steamers through the Straits of Magellan: one important item would be the grain from the Pacific ports, the value of which alone amounts to more than 4,000,000*l.* per annum, and is now conveyed to England principally by sailing vessels, but which would, on the outbreak of hostilities, have to be carried by steamers. With the French Messageries steamers running to Rio de Janeiro, by far the fastest vessels on the route, and ready as they doubtless would be on the outbreak of war to take the initiative, what are the means at hand to catch them or hinder them from picking up our sailing vessels and steamers in all directions? The "Cleopatra" cannot be everywhere, and after the "Swallow" is mentioned, the rest of the south-east coast squadron might as well be in Portsmouth Dockyard for anything they could do to protect our ships in that direction, and if they cannot do so, where are the vessels to be sent in a hurry to take up that duty on the outbreak of war, and generally to protect this route? It must be borne in mind that with the Suez Canal blocked, Cape Horn is on the road home for steamers from Australia as well as from New Zealand, and

that therefore the traffic on this route would increase enormously—also that both steam and sail routes from the Horn to the Line are not far from one another, which fact is all in favour of the enemy—also that the remarks as to scarcity of coal supply at the Cape, should the trade increase suddenly, apply with additional force to this route. The Falkland Islands are our only depôt, the stock of coal there is not worth speaking of, and it is a long distance to steam from Australia to Buenos Ayres or Rio. I do not see that the half-dozen fast cruisers now in reserve would be too many to patrol this route, but I cannot resist the idea that they would find their work fully cut out, a great deal nearer home, and here I quote words used by Admiral Colomb in this theatre:—

“Is it not reasonable to assume that the 900 steamers in France thrown out of ordinary commercial work by the war would be largely employed for raiding purposes?” He also mentions the 1,800 or 1,900 vessels leaving and entering the British ports daily, and, finally, “it seems as if, unless there are armed ships *on the spot wherever shipping is thickest*, a single raider in the short time at his disposal might do enormous damage.”

I think I have shown that our commerce, as totally distinct from the question of fighting between fleets of battle-ships and the defence of the country itself, is not satisfactorily protected. I should say that the grain trade alone, which would be diverted to these two routes in the event of the blocking of the Suez Canal, would be to the value of 10,000,000*l.* per annum at least. I think it will be generally admitted that we should, under existing conditions, sustain our heaviest losses during the first two months of war, before the vessels we rely upon to run down the enemy's raiders, are enabled to arrive at their stations, and this being so, does it not show the necessity of some vessels on the spot being put into some such state of fitness as shall enable them to take part in the forming of convoys and the protection of them to a certain extent, until they can arrive at what may be termed the fighting ground of battle-ships? The mere fact of *any* merchant steamers being selected to carry guns on an emergency is quite enough for my argument. What one can do another can within moderate limits. By this I mean that the difference between the subsidized vessels and an ordinary first-class mail steamer is not such as to vitiate my argument; and even if inferior vessels were used we could afford to lose ship for ship far better than any of our neighbours.

If the control of the highways of the sea is our heritage as we fondly imagine, and we are to retain it, it will not be done by a mere comparative superiority of strength, it will have to be by a decided and decisive one, and unless the fleet of 150 cruisers asked for by Admiral Hornby is to be called into existence, in no other way can it be done than by securing the services of numbers of merchant steamers; scarcely any effort that I could imagine would do so satisfactorily on the outbreak of war with an enemy knocking at many of our hundred gates. With our Navy admittedly far too small for the work it has to do, is it not worth while *now* to commence and see

what can be done in the way of organization and arming of some of the most suitable steamers on the routes of which I have been speaking? It is so easy to do most things if one only has time, but the want of it in this case would be simply disastrous; time meaning leaving the victualling of England to take its chance. Diplomacy has its day, and that day is usually a long one, giving an enemy every opportunity to make sure of our intentions and to be ready as soon as ourselves to endeavour to strike the first blow. What better opportunity could there be than the present to institute these reforms necessary for our safety, and which if taken in hand when any relations were strained with a foreign Power would undoubtedly make matters worse, and perhaps precipitate events which might have been avoided and would perhaps be regretted?

It is now a matter of history that at the time of the last Russian war—scarcely their cruisers were encountered in the most unexpected places, and the inference is that they will be still better prepared when the inevitable occasion comes. What our preparations were it is needless to discuss; but I presume it is well known that we were anxious to buy and pay double cost price for at least one fast cruiser that could both keep the sea and fight. Now, if it was considered necessary then to invest half a million of money in one solitary instance, would it not be worth while to invest a moiety of that sum in putting some of our own vessels into such a state as should in a great measure obviate the necessity for such a prospective outlay?

Before proceeding further in this matter I should like to state that I do not propose or contemplate a convoy of armed merchantmen without a man-of-war to take charge of them. I should not propose a collection of British ships to afford target practice for an enemy, which might happen if there were no ship present capable of meeting a man-of-war, and preventing a game of long bowls, where the odds would be all against the vessel showing the biggest side. And here I would like to suggest, in the most unobtrusive manner possible, that the length of the cruisers mostly built now for the protection of our commerce is a fatal bar to their efficiency. I should rather say their want of length, for nothing under 350 feet is fit for deep-sea speed.

There was a vessel built some little time since by Lord Armstrong, who is reported to have said that she was more than a match for a fleet of armed merchantmen; of course such an authority is a difficult one for me to question, but I think a little may be said on the other side. Steam is a great leveller of odds at sea, and the stem of a merchant steamer is almost as formidable as that of a man-of-war; there is the force that, properly applied, is capable of sinking any vessel not strong enough to resist it, and I cannot dismiss the idea that a convoy of merchantmen is not to be handled with the impunity which is commonly imagined. There are certain easy formations which could be maintained with no risk to themselves, even by vessels not accustomed to keep station, that would put even an "Esmeralda" in a fix if she ventured amongst them, presupposing there were any shred of organization, which there undoubtedly would be if they ever found themselves in such a position. There is no truer saying, and it

has been applied very closely to naval affairs, than that "History repeats itself," and if a fleet of merchantmen has succeeded in beating off an enemy before, there is at least the inference that it may do so again; but in the notable instance in which it did so, the ships were well organized and disciplined, and this would necessarily be a *sine qua non* now, and herein lies the great gist of the matter.

Now, if it is said that it is of no avail trying to organize merchant shipping for its own defence or for a certain purpose not immediately connected with its own pursuits, look at the vast strides the P. and O. Company has made lately towards manning and officering its ships with Reserve men. I say *vast*, because small though the actual numbers of the men are, the bare fact of the expression of the wish of the directors of that company has been enough to foster the scheme amongst their *employés*. How or why that wish came to be expressed is a matter unknown to outsiders, but it is reasonable to suppose that the directors of that company did not consider it would be detrimental to their interest as the first mail service of England. Undoubtedly, many vessels of that fleet, other than those on the subsidized list, would have to play an important part in that quarter of the world to which they trade, should war occur. The interests there would be far too valuable to sacrifice by taking the vessels off the route. It would be too fatal a mistake to part with one item even of our trade in war-time that we could possibly retain. And so to return to the Cape route as the one immediately under discussion, I should say that if considerable trouble had been expended on the preparation of vessels to look after themselves and perform some of the work necessary in war-time between the Cape of Good Hope and England, none better could be selected than those of the Union SS. Company of Southampton. Having sailed in them for many years I am fairly justified in expressing an opinion on the matter. What the directors of that company would say to my suggestion as to the use to which it is possible to put their fleet I know not, but I know that if the expression of some wish at headquarters has been enough to influence the P. and O. Company, I do not imagine for one moment that the Union Company would be less willing to move towards their own interests. Were they once convinced that such a course was advisable, no better ships could be selected for the trial of any new plan. They are extremely handy vessels, can average about 14 knots per hour, and sailing from Southampton offer exceptional advantages in favour of the end I have in view. I believe it possible in such a port as Southampton to practically retain ships' companies for years and years together, and I instance this particular company for the reason that it and the Castle Line are at work on the route under consideration. And having suggested the possibility of such use of mail steamers, it somewhat rightly devolves on me to show the practicability of the scheme.

Here, again, comes in history as a precedent: in all our great naval struggles, notably in the case of the Spanish Armada, each port sent out its batch of ships under their own separate organization, and yet capable of working towards one common end.

This matter of the working of groups of merchant or mail steamers is capable of easy solution; any man of ordinary ability appointed to work a group of ships to carry out a well-planned scheme could do it with little difficulty if properly instructed as to the broad outlines of the plan; the appointment would be little different from that of the mail officer or agent of the past. He would know accurately the movements and routes of his own vessels, and where they coincided with those of other lines; and if Marine Superintendents of large steamship companies receive honorary commissions in the Naval Reserve they would doubtless also be pleased to perform any duties which might fairly go with their honorary rank. I have not the least hesitation in saying that the majority of these gentlemen would be the ones to work the plans satisfactorily. Even a small subsidy to the companies concerned would produce the ends desired in the time usually taken by merchantmen to earn their money, and that is the shortest possible. I say a subsidy to lines that are not in receipt of a retainer for their vessels, for it would not be reasonable to expect any company to work, even for the common weal, if they were not paid reasonably for their efforts; it might also well be a matter to be considered in the placing of mail contracts.

I have spoken of the subsidized vessels at present on the Admiralty List being required on their own routes; the North American trade would ill spare its fastest and best vessels under the conditions of modern warfare, still less could vessels on the Australasian lines be taken from their ordinary traffic; the stoppage of trade with our Colonies would be a vast misfortune to contemplate, the exports of food alone from Australia amounting to 3,000,000*l.* in 1886; and part of the enormous grain supplies we receive from North America would surely find its way to England by the fastest vessels procurable.

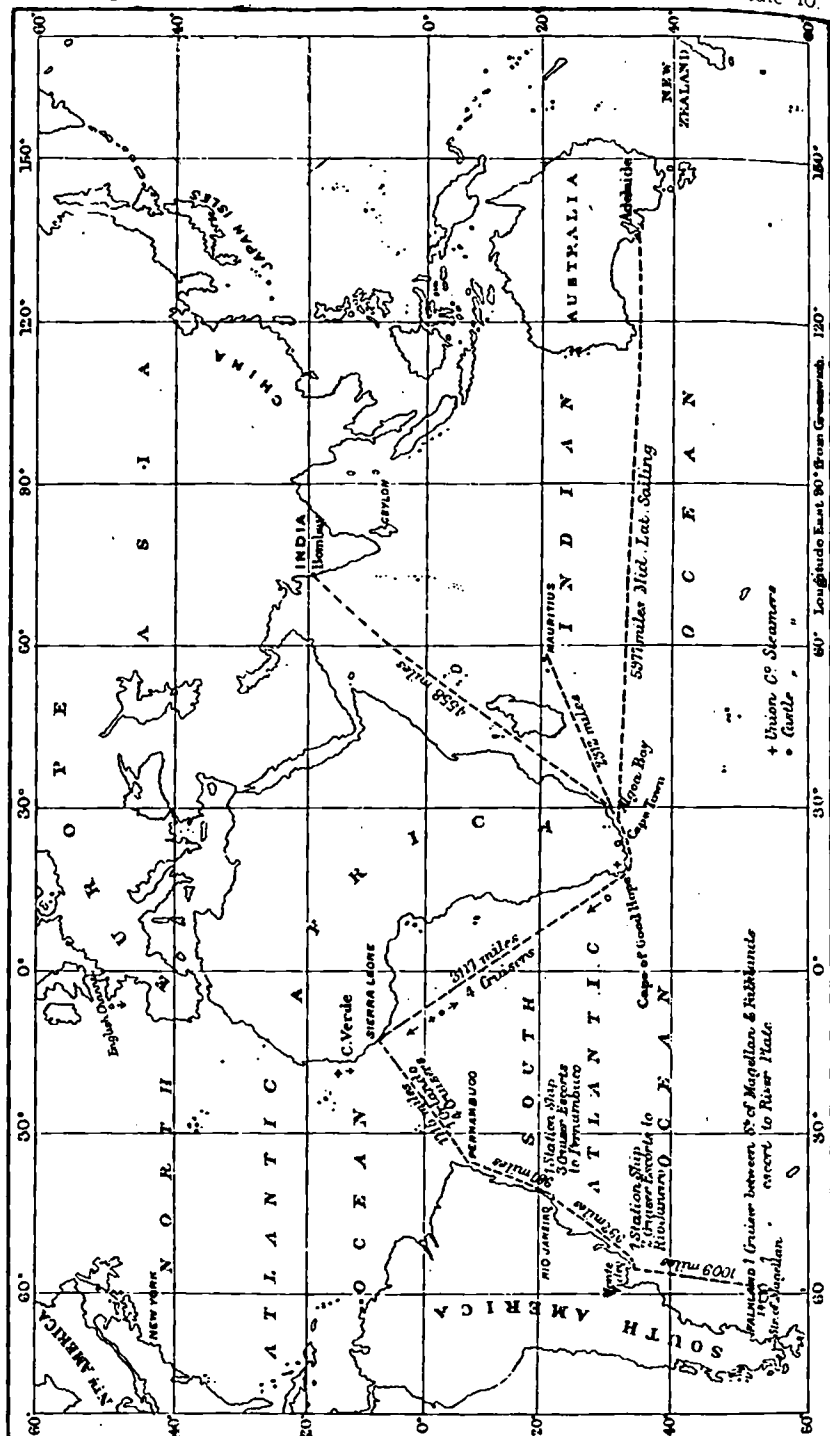
There is no armament abroad worth the name of such to put into any vessels that may be required on an emergency: a spasmodic attempt was made six years ago to meet the want, with little result, save the water carriage of many obsolete weapons. I do not, however, say much on this subject, as armaments have changed very considerably since I first made any remarks on it, and we must move with the times; but why not try the experiment of putting a decent armament of quick-firing guns into the fleet of vessels I have mentioned? With depôts for ammunition on the route, the matter would be capable of a great facility of working, and a fleet of well-disciplined, sound, fast, and useful vessels is ready, so to speak, constantly.

The question of the magazine is, I imagine, the most serious one by far; no large supply of ammunition could be carried owing to the difficulty of port regulations, dock rules, &c., but quick-firing ammunition is widely different from the old system of cartridges and not nearly so dangerous, so that I do not look upon the difficulty as insurmountable—the guns themselves are no obstacle, the great difference of weight between modern and old-fashioned guns having removed one great objection; should any such scheme as this get a trial and prove a failure, the expense would not be worthy of consideration as compared with the great interests at stake, though I do not believe that in the

vessels I have indicated failure would be at all probable, and what can be done in one service can be done in another if it be proved worth while. There has been a falling off lately in the numbers of the First Class Reserve men; there used to be an idea that reserve men were not popular with shipowners, in consequence of their liability to be called upon for service; that is entirely exploded, both in the case of Officers and men, but if this force be worth being taken care of, no better system of encouragement could be adopted than by so arranging matters that the leading lines of steamers should seek to obtain them. I am well aware that nothing is likely to succeed in this commercial age that does not give a fair prospect of gain or advantage to someone concerned in the business in hand; this present matter is an extremely big one, and the bearing of it on the merchant service of England is not seen by all. By no amount of legislation would it be possible to produce the same results from a Board of Trade point of view, as would this scheme were it given a fair trial; it would mean a revision of the officering of the mercantile marine, it would put an end to the very unsatisfactory discussions that wage about superior certificates, and it would produce a class of men that could fight their ships as well as work cargo. In other words, it would mean that the Naval Reserve, in place of being a force costing little and doing a proportionate amount of work for value received, would become to all intents and purposes a reality, it would have arms to fight with, and a coherence that at present it does not possess.

The Volunteers of England are much exercised in their minds now as to their efficiency, should they be called upon to take the field; they want a bigger capitation grant, great coats, rifle-ranges, and many other things that they will doubtless get. But is the danger of an invasion of England to be spoken of in the same day with the extreme peril our commerce is in at sea? Yet this force, the Naval Reserve, which I suppose is intended to correspond to the militia, has, from its very beginning, "been kicked loose and billeted nowhere," and that this is so is, I feel convinced, because people will not look at things from a logical point of view. If we lose our trade and the command of the sea, the fact of an invasion, more or less, will little influence the destinies of England, and all the armed merchantmen we could muster would little avail us without a corresponding increase of our men-of-war on the routes here under discussion, to exercise the superior controlling power and provide anything like adequate protection to the enormous wealth at sea.

In the accompanying map it will be seen that the two routes of the convoys from east and west converge at Sierra Leone, and that eighteen vessels (men-of-war) are required to form convoys, irrespective of armed merchantmen. Of these eighteen, three may be termed station ships, and one should be somewhat after the style of the "Orlando," to remain on that part of the route between Pernambuco and Sierra Leone. I think it would be far better were the same vessels to remain on their own part of the route, which may be divided on the east coast of South America into four portions. I have assumed a speed of 12 knots for the convoy throughout, and my reason for



saying that the men-of-war should remain on their own position of the route is, that they, not being accustomed to steaming long distances, could not, without occasional stoppages, do the work which is the everyday business of the merchant steamer.

The patrols would be—

From the Falklands to the Plate,

The Plate to Rio de Janeiro,

Rio to Pernambuco,

Pernambuco to Sierra Leone.

Sierra Leone would be the rendezvous also for the Cape of Good Hope convoy, and from that port into Channel they would, of course, require far more careful watching than they have hitherto had. I do not express any opinion on that subject, but I scarcely think that any naval Officer present will say that I have taken an exaggerated view of the needs of these two routes for men-of-war only; even as it is, there are numberless difficulties to be encountered, one of the principal of which would be the coaling of the men-of-war. On the Cape of Good Hope route the convoy would be formed in Table Bay, and there, if it were to be had, the vessels would take coal enough to carry them to Sierra Leone. If private enterprise or Government forethought had not foreseen the want of coal at that port, there they would remain until the necessary supply was forthcoming; but with the south-east coast of America it is different. Between the Falkland Islands and British Guiana, which, for all practical purposes, may be taken to mean the West Indies, we have no port; and whether the Argentine Republic and Brazil would consent to our using their ports as coaling stations for our men-of-war, is a question that may perhaps have to be argued after the event; but if this were so, it would point out that the coaling of men-of-war would have to be done at anchorages on the coast; or else Rio would have to be considered a central point, and Sierra Leone and the Falklands considered as finals. I am under the impression that this, the south-east coast of America, would require a great deal of attention. At a speed of 12 knots, it is six days from Sierra Leone to Pernambuco, three more to Rio, three more to Buenos Ayres, and three more to the Falklands.

The ships on the South-East Coast Station are the "Flamingo," "Rifleman," "Cleopatra," and "Swallow"; on the Cape and West Coast, "Acorn," "Alceto," "Bramble," "Curaçoa," "Goshawk," "Landrail," "Penelope," "Pheasant," and "Raleigh"; and I must leave it to experts to say what would be the value of these vessels if used for convoys.

When I was last at the Cape I got the positions of all the mail steamers, and placed them as shown on the map. It was the 4th of January, and I concluded that if war were declared on that day, by the end of the month Table Bay would be filling up with vessels stuck for want of coal. I do not know whether it enters into the present programme of defence to look after Sierra Leone and the Falkland Islands, but I do not see how they can escape playing a very prominent part in any future naval war if properly utilized. The French had a big coal depôt at Gorce years ago. I should say it would be a

very serious thorn in our side if we ever have the misfortune to quarrel with them, and have no similar depôt in the vicinity, whilst the Falklands are simply of *vital* importance to vessels coming from New Zealand and Australia.

I do not know whether my arguments carry any amount of conviction with them. I am so firmly convinced in my own mind of the accuracy of what I state, that I have not, perhaps, sufficiently emphasized detail to satisfy all my hearers, but I do hope that the discussion which follows this paper will help to show that the danger that threatens England is not invasion but the destruction of its wealth at sea.

"STATISTICAL ABSTRACT FOR THE UNITED KINGDOM (No. 35), 1887."

No. 26 (p. 51). *Quantities and Values Imported into the United Kingdom.*

<i>Corn.</i> Wheat	55,802,518 cwt.	£21,337,918
Barley	14,239,566 "	3,761,497
Oats	14,462,943 "	3,488,320
Maize	31,167,325 "	7,548,272
Other kinds.....	6,334,360 "	1,854,868
Wheaten flour	18,063,234 "	10,027,884
Flour, other kinds	895,961 "	272,025
Total of corn	140,965,907 cwt.	£48,290,793
Bacon and ham	3,927,602 cwt.	£8,733,776
Beef	874,248 "	1,811,237
Cheese	1,836,789 "	4,514,382
Salted and fresh meat.	826,794 "	1,631,116
Preserved meat.....	520,239 "	1,351,769
Potatoes.....	2,763,357 "	974,904
Rice	5,019,512 "	1,873,551
Tea	221,841,490 lbs.	9,782,998
Total.....	237,610,031	£30,723,733

No. 30 (pp. 70-71). *Quantities of Grain Imported into the United Kingdom.*

<i>Wheat.</i>		
From U.S.A. Pacific ports...	9,978,202 cwt.	£4,014,939
Chile	2,206,272 "	836,529
British India	8,511,512 "	3,102,964
Australasia	1,347,151 "	531,243
South Africa, British Possessions	49,501 "	18,393
Total.....	22,092,638 cwt.	£8,501,033

"ANNUAL STATEMENT OF THE TRADE OF THE UNITED KINGDOM FOR
YEAR 1887."

Preserved Meats.

Australasia	167,161 cwt.	£386,810
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Fresh Mutton.

Australia	42,445 cwt.	£77,008
New Zealand	395,638 "	811,208
Argentine Republic ..	251,273 "	412,597
Total	689,356 cwt.	£1,361,413

Rice.

Japan	167,799 cwt.	£67,641
Siam	39,491 "	13,225
China	26,616 "	13,287
South Africa, British Possessions	250 "	120
Mauritius	19,200 "	6,325
British East Indies ...	4,309,278 "	1,506,200
Total	4,562,634 cwt.	£1,606,798

Coffee.

South Africa, British Possessions	3,087 cwt.	£9,817
British East Indies ...	272,682 "	1,178,150
Hong Kong	718 "	2,476
Total	276,487 cwt.	£1,190,473

Admiral BOWDEN SMITH: Mr. Chairman and gentlemen, I think it is a very good thing for this Institution and the country also, when a gentleman of Lieutenant Crutchley's experience comes here to read a paper on a subject of so much importance as this. We are very glad also to see you, Sir, in the chair, for I do not think anyone has done more than you have to bring this subject before the country. It is admitted that the protection of our commerce demands a large proportion of cruizers, and, I think, all our hearts have been recently gladdened by the very excellent, and, I think I may say, judicious shipbuilding programme, which has been put before the country by the First Lord of the Admiralty, and which has already practically passed the House of Commons. Unless, however, we have our organization complete, and make preparation for war in time of peace, we shall not get the full benefit out of these cruizers. There is a subject in connection with this matter which was touched upon by Lieutenant Crutchley in the first part of his paper, which I think of great importance—I allude to the question of communication and signalling during war between our cruizers and ships of the mercantile marine and between one merchant ship and another. I do not think that this question has been sufficiently considered at present. We heard last year that Lord Charles Beresford was about to bring forward some motion on the subject of signalling, but owing to the great demand on the time of the House of Commons, he was unable to do so. Of course we all know, all who are accustomed to the sea, that we can communicate with each other at present during the day time with flags, by the International Code-book, but there is no means whatever of communicating

at night. What does that mean? It means that during war-time one of these magnificent steamers that Lieutenant Crutchley has been talking about may have some valuable information to give to one of our cruisers, or a cruiser may have some very important communication to make to her, and neither can do it unless they lower a boat or approach within hail, which is not always an easy matter. Our possible future enemy may be kind enough to involve us in war during the summer when the days are long and the nights are short; but on the other hand we may be dragged into a war in winter when, as we all know, on some dull days, we could have no communication with each other between 4 o'clock one afternoon and 7 o'clock the next morning. Many Officers in the mercantile marine have thought about this, and two or three gentlemen, considering that our system in the Navy is too difficult and complicated, have sent up some plans to the Board of Trade for night signalling, and it has been my good fortune to have to look into those plans and report upon them. I examined them carefully, and came to the conclusion that they were certainly not so complete as our system, and were not more easy or more simple; but I would not trust to my own judgment only, and, therefore, put myself in communication with the Flag-Captain at Portsmouth, and asked him to be kind enough to give me the opinion of his Signal Staff. I sent these proposals to him, saying, "Please put aside every prejudice, and tell me if you think they are workable, and if they are more simple and more easily learned than our own." He replied that they were workable, but that they were not more suitable and not more easily learned than our own. So I came to the conclusion that if any system of night signalling is introduced, it must be the Morse system. When I say the Morse system, I mean the system we use in the Navy, and which was first introduced by my friend Admiral Colomb. We know that it is to him that we are indebted for having first introduced this flashing system of night signalling into the Navy. Now, I wish to point out to gentlemen of the mercantile marine the advantage of this Morse system. The only apparatus necessary is a lamp with a shutter or slide, which will cost, perhaps, 45s., and a steam whistle, which is already fitted to every steamer. There is no code-book required, and signalling can be carried on under any circumstances, by night as well as by day, and in fog as well as in clear weather. It would require a trained and qualified signalman in each ship to work it; but why should not our large steamers carry one qualified signalman? I do not for a moment suppose that night signalling could be carried on in our sailing ships or smaller steamers; but if the Admiralty and the Board of Trade would give their sanction it might be introduced into our large mail steamers, such as those of the P. and O. line, and the magnificent ships that cross the Atlantic. They might, perhaps, if it were authorized, provide themselves with a lamp and allow one quartermaster of each ship to be trained and requalify once a year, as our Naval Reserve men do. We might then have a system of signalling between Her Majesty's ships and the merchant service, and in the merchant service itself between one ship and another. If this system were once introduced it would probably become popular. When I was in the "Britannia" a few years ago, we rather went in for the use of the semaphore as well as the Morse, and I was surprised to see the way the boys took to it. I used to see them in the boats and in the cricket field making signals to one another with their arms. I believe, that if this system were introduced into the mercantile marine, it would grow; young Officers would learn it, and it would be taught on board the "Conway" and the "Worcester." The Morse system now holds the field, but if anyone can propose a better and simpler plan I hope he will do so.

Admiral BOYS: I want to ask the lecturer one question with reference to the route between Sierra Leone and the Cape of Good Hope. He has not mentioned either the islands of Ascension or St. Helena. St. Helena is a coaling station very fairly fortified, and perhaps the lecturer will presently give us the reason why he has omitted it. A curious circumstance happened to me only yesterday before seeing or hearing this paper. Captain Crutchley says history repeats itself; I saw yesterday, in a shop window, an old print of two ships, which attracted my attention; it represented a British brig being captured by a French privateer. The privateer had lowered a boat; the brig was to windward; the brig put her helm up, ran clean into the privateer, carried away her aftermast and sails, got clear, and

away she went and left the privateer to look after herself. That seems to me a condition of events that might happen again, especially when two or three vessels are together, and it bears on the paragraph in the paper in which Captain Crutchley points out that the stem of a merchant ship is nearly as formidable as that of a man-of-war, and that a fleet of merchant ships have beaten off an enemy before, and the inference is that steam would give a better chance now to do it again.

Captain NOEL, R.N.: I wish to bring two important questions before the meeting. The subject of this lecture is the unprotected state of British commerce at sea, and I presume that what we are to consider is how the commerce is to be best protected. I think the first thing we want to decide—as a great naval nation—is to what extent must an armed merchant ship receive the authority of the Government in order that it may act as a war-ship without infringing the maritime law by which privateering is abolished. That must be an exceedingly important question. Supposing, as Captain Crutchley observes, that we did allow our merchant ships to carry armaments, is it possible when they are abroad for them to receive authority sufficient to enable them to act as ships of war? The next question is, to what penalty, if any, a captive merchant ship would be liable if her capture were resisted by force of arms? I think that these two questions are of great national importance to England, and of such great importance that it is very desirable that the Government of the country should get a full and thorough understanding of them from other nations. I do not propose to go into the paper more fully. I appreciate and admire the way in which it has been put before us. It is most clear and concise, and thoroughly to the point; in fact, it is one of the most valuable papers on naval subjects that we have had in this Institution for a long time.

Captain PENROSE FITZGERALD, R.N.: Lieutenant Crutchley makes a sort of apology in the first paragraph of his paper for bringing forward the same subject on a third occasion. When I was coming down here, before I had seen the paper, although I guessed what the nature of it was, I was making up my mind that I was going to pat him on the back and thoroughly encourage him in hammering away. If we want a subject brought before the public it is no use stating it once and then dropping it, and I was rather afraid when I heard the last paper that that was what he meant to do. We see the principle of reiteration adopted to enforce all sorts of fallacies and falsehoods, I might say, "in another place," if it is not actionable, and I do not see why the same principle should not be applied to truth, and to a patriotic course like this, until he insists upon his countrymen taking it up and looking at it. We hear the Irish question and various other fads hammered at until we are sick of them, but here is a point which is vital to the existence of the Empire, and what I say to Captain Crutchley is: do not make this the last time; go on until you make them listen to you! There are several controversial points, but really the general tenour of the paper is so entirely to the point that one does not like referring to the points that one does not entirely agree with. There is, however, one point about the Navy. He says: "All the discussions which have taken place lately on the subject of our Navy have, as far as I have seen, been solely confined to the ability of our men-of-war to meet successfully those of our possible antagonists; the protection of the greater part of the commerce of the world has not been touched upon." I am afraid people will get into the fallacy of saying that *besides* providing a sufficient Navy to meet the enemy, you must have protection for your merchant commerce. Now if there is nobody to attack your commerce you do not want any one to defend it. If your Navy is sufficient to not only crush the fighting ships and the regular cruisers, but also the auxiliary cruisers and similar vessels, that settles the question. If there is nothing to attack you, you do not want any protection. I refer to this point because it is the one logical argument of the opposition. I think he made a most admirable allusion to the food supply when he said: "To compare small things to great, what happens if snow delays the ordinary traffic to the metropolis for three days?" We know what happens. Distress of all sorts. That is a very concise and admirable way of putting it, and I hope, whatever other part of the paper is published, that they will publish that. I had the honour yesterday of reading a paper very cognate to this subject at the Naval Architects, and I quite agree with the lecturer in saying that these large Atlantic cruisers which have been subsidized by the Admiralty will be wanted

for their own trade routes, and we shall not be able to use them as war cruisers at all. They will be required to use their enormous tonnage to carry cargo, and to carry whatever to us will be most valuable: it may be coal, perhaps, to different stations. I think it probably will be coal, to fill up those unsupplied depôts which Lieutenant Crutchley so graphically brings before our minds, at the Cape of Good Hope and the Falkland Islands, and other places. I should think one of the best things to do would be to fill the "Etruria" up with coal and send her to the Falkland Islands. It sounds a big order, but it would seem to me to be the most valuable thing to do with her, because for ships of that tonnage to be simply used as protecting cruisers would appear to be an utter misapplication of their capabilities. I think he made a mistake in referring to the "Alabama," because, as far as I know, she only captured one steamer, and we must look for the sailing ships being laid up. He says: "I hear it frequently said that in the event of war our ships are to be transferred to a neutral flag." I am very glad he brought that point forward. It has been set forth, I think, by no less authorities than Lord Brassey and Mr. Forwood. It simply means suicide; it would be the end of the whole business: the British Empire would cease to exist. If you cut your throat, what more do you want? If your trade is transferred to a neutral flag you must give up business; it is strangulation, that is the end of all things. I hope the papers will put that down. Then with regard to the Declaration of Paris. It has been touched on several times in this theatre, but it has never been thrashed out. I do not see Mr. Baden-Powell here to-day. I should like to hear him again on the subject. Admiral Colomb mentioned Lord Thring yesterday at the Naval Architects, and the mere mention of the name so frightened Lord Ravensworth that he shut him up, and would not let him pursue the subject; the very name of Lord Thring was sufficient; he would not let him say a word about international law. It should be cleared up, though, one way or another, before war breaks out. I remember on the last occasion Lieutenant Crutchley asked, in a pathetic manner, what was to become of him if he was found fighting, whether he was to be hanged, because, he said, as a matter of personal interest, he would like to know: and I dare say he feels it quite as much now. The doubtful point should be cleared up. I do not know whether Captain Crutchley can explain this sentence: "There has been a great falling off lately in the number of First Class Reserve men." I wonder if he can give us any explanation of that. I think it is a terrible pity if that be the case, and there must be some reason for it, and I do think that they ought to be encouraged to the very fullest extent possible. With reference to Admiral Bowden Smith's observation on signals, it seems to me to be the very vital essence of the thing, and that his proposition is eminently practical, to get one man who can work the semaphore or the Morse code in each ship, and then to allow the system to spread, and it would be, I believe, as he says, contagious; the men would soon pick it up, and I have no doubt if it were once started in the merchant service, Captains passing each other on sea routes would signal to each other all sorts of interesting news, either with the whistle, the semaphore, or the flashing light, as the case might be. If it were once started they would use it, and the benefit of it when war came would be simply inestimable, because they would be able to communicate direct with every man-of-war they saw, and to give them information which might be of vital importance to the nation. A system of signalling, so simple and yet so comprehensive, would form the strongest possible connecting link between the two Services, and its value in war-time would be inestimable; but this, and all other organizations, must be completed in peacetime.

Rear-Admiral P. H. COLOMB: I should like to add my mite to what Captain Fitzgerald has said, and to hope that Lieutenant Crutchley will not drop this subject, but will go on hammering away until he gets it right. We have to recollect that, after all, this question has been debated in our country for a comparatively short time in our own day. I think the Chairman began it something like twenty-three or twenty-four years ago. We have been more or less hammering at it ever since, and I suppose in twenty-three or twenty-four years more, if we continue hammering, the question will be understood. The whole of our naval position is usually misunderstood by the ordinary Englishman, and I might give you a couple of anecdotes of what occurred to myself recently as a proof of what I have just

said. Last year as a part of the scheme we were then getting up, and which has produced such excellent results, I wrote to the London Chamber of Shipping and said to them, "I do not think the shipowners as a rule understand the difficulties they will be placed in in war; if you can get me an audience of shipowners, I shall be happy as far as my humble powers go to help you to consider the question, which is an important one." The answer I got was that an audience of shipowners could not be got together to consider that question, the season was against it. I waited until the season had changed, and I wrote again and said: "As the season has changed, perhaps you could get an audience to consider the question of whether you are going to retain your ships in war-time or to lose them;" and the answer I got back was—and it was a very remarkable answer, I think, I keep it carefully by me—that "I was a little mistaken as to the nature and office of the London Chamber of Shipping, that it did not only, as I seemed to suppose, represent the shipowners of London, but that it consisted of delegates representing the ship-owning body over the whole kingdom; and that, therefore, I must see that it was not the sort of body which ought to be addressed on the subject I proposed." Now, I will give you another anecdote. I read, as I suppose a good many of us do, much of what is said by the Press all over the country on the subject of defence, and amongst the articles a fortnight ago or thereabouts was a long one from the "Scotsman" discussing some of these questions, using my name and quoting me as having said certain things. The certain things I was quoted as saying were to my mind the greatest nonsense; and I was somewhat nettled at having such words put into my mouth. However, I sat down and wrote a long, and as it was characterized, a very "stormy" letter to the editor of the "Scotsman." I attached a piece of paper saying I presumed it was too long and too stormy for publication, but there it was. However, the editor put it in, and added a paragraph at the end of it. My letter explained some difficult questions of naval policy, and amongst them the question we have before us to-day. The editor added a paragraph at the end of it, saying that he had received great punishment for the small offence of misapprehending what I had said; that it was a very stormy letter, and really after reading it carefully, he was quite unable to make out what it was the gallant Officer meant; "but," he said, "after a little time we will endeavour to deal with this stormy letter." In a little time, in three or four days, there appeared a leading article, declaring that my letter was the most lucid description of naval policy which they had ever read. That is to say that my words, you see, fell at first upon absolutely blank minds; and Lieutenant Crutchley must understand that his words when they go out to the general public in England fall at first upon absolutely blank minds, and there is nothing to be done that I know of except to go hammering and hammering until those minds get sufficiently receptive to understand what it is you are talking about. Captain Fitzgerald dealt, I think, almost sufficiently with one point of criticism that I picked up, that was the apparent supposition that war-ships as built at present were not prepared for the protection of our commerce; that they were prepared for contending with the ships of the enemy, but that in some way they were disconnected with the defence of commerce. Now, my opinion is as to the new programme of the Government, that no person acquainted with what would have to be done in war, who studies it, can doubt that that programme has been drawn up directly and distinctly in view of the protection of our commerce. The classification of the ships, the numbers of the ships of the different classes provided, were quite enough to convince me at any rate that the protection of our commerce has been in the mind of the Government, and that the Government have at this present moment something approaching to regular plans which they never had before for the real protection of our commerce in war. I think Lieutenant Crutchley may consider that his former papers on this subject have helped that, and that this paper will still further assist it. The loss of the food supply is of course always touched upon, and we find in the country that question is again very much misunderstood. When we speak of "starvation" in the technical sense, it is held that what is meant is absolute starvation, an absolute stoppage of the food supply into this country. I am quite sure none of us mean anything of that sort. We know quite well that there is always such a thing as breaking blockade, and that it is almost impossible to cut entirely off the exit and entrance of ships from any port.

But this is what we do mean, that if it happens that our ships have not free passage over the sea, two things will come about: there will be a shorter supply of food in this country in consequence of a less quantity coming into it, and the price will certainly rise far above the natural level due to that circumstance. Also, this is quite certain, that at the same time as you lose your full supply of food you will also lose your full supply of raw material. How are you situated under those circumstances? Food has run up in price, labour has necessarily gone down in price. Are we wrong when we used the word "starvation" to imply that condition of things? I do not think we are. I very much agree with what the lecturer said as to the doubt that exists in our minds whether, even in the case of these subsidized steamers, it will be possible to remove them from their ordinary routes. I greatly doubt it. I think that they will have to be utilized in some way over their ordinary routes. As to dealing with captured vessels, I think that the lecturer rightly classifies the different methods of dealing with them; and then I think we may go back to history to see pretty well what would happen. The old privateer always brought out a number of spare crews on purpose to put them on board the captured vessels; and although we are not allowed to use the word "privateer" now, although the ship which will do the same or worse work as the privateer did will not be called a "privateer," yet I have no doubt whatever that this commissioned ship will take with her a number of spare crews. And then you must recollect that if one of these small vessels makes a capture of a big ship, such as the lecturer has spoken of, that will be sufficient for her purposes; that one big prize will mark the success of her cruise; she will be ready to go back into port again after having made that great capture, and I conceive that generally speaking the practice must be to put crews into the steamers when captured, and to endeavour to get them back into port; not only because of the value that is saved to the captors, but also because every steamer captured from us which goes into an enemy's port may come out of that port commissioned as a man-of-war and raider for the purpose of adding to the mischievous fleet which is troubling us. I will now state what I had not the opportunity of stating yesterday at the Naval Architects. Lord Thring in this theatre, a couple of years ago, in discussing an analogous paper to this, distinctly said that there was no question whatever about the right of a merchant ship to defend herself; that a merchant ship had a right to defend herself against capture by an enemy, precisely similar to that which any Englishman has to defend himself against a garrotter or burglar. Of course I quite agree with Captain Fitzgerald and Captain Noel that it is most important that this very elementary question should be laid down as settled by authority. I must confirm Captain Fitzgerald also about the "Alabama." I think if more than one steamer was captured by the "Alabama" there were very few. This much is certain, the "Alabama" made nearly all her captures not under steam but under sail, and it was because she made them under sail that she was able to have such a long life of it. Other Confederate ships which tried to make captures under steam soon expended their coal, and then disappeared into ports from which they never came out again. As to the transfer of the flag, we had that at the Naval Architects only yesterday. Here the question is raised again. It is quite forgotten, as the lecturer has so ably put it forward, that there are not flags enough to hold our ships, not nations enough to take them up. If you look into the law of transfer of the flag, as laid down by the international lawyers, you find that the conditions are very difficult to get over on the part of our shipowners, who think so lightly about the transfer of the flag. What it means is that they are going to sell their ships at a sacrifice, and never get them back again. There is one point which I believe is quite certain as regards France, which is the country after all that we have most to think about. France I have very good reason to believe is admitted by international law to be able to sustain the position that she will not recognize any change of flag which takes place after the declaration of war. So where are you? I, in common with previous speakers, would like to know more as to how it is, and to what extent, the Naval Reserve is said to be falling off. I have the highest possible opinion of the Naval Reserve, and I am sure we rightly rely upon their help in war-time. I should like to see their numbers greatly increased, and I think it is quite possible that a second-class reserve may come out of the failure of our attempt to work the defence of our shores through the volunteers. I take it that it is very likely that through

some second-class reserve that may be better effected. Perhaps I may be excused for adding a word upon the subject of signalling, which has been mentioned. I would like it to go forth through the Press that I am pretty sure that we should have had the flashing system in common use in the mercantile marine some-time ago, had it not been for the direct interposition of the Board of Trade. Nearly the whole of the steamship companies of Liverpool at the time when the distress signals were changed, and when difficulty in the mercantile marine arose in consequence—the greater part of the steam shipping companies in Liverpool, on my moving, applied to the Board of Trade to be allowed to use that system to distinguish themselves at night, and to communicate amongst themselves, and the Board of Trade gave a distinct refusal.

Admiral BOWDEN SMITH: The Board of Trade are now willing that they should do so.

Admiral COLOMB: I am very glad to hear it. It ought to be known that we could have had the thing moving now, had it not been for their direct interposition. I was unable to ascertain the reasons for this forbidding, for it was a direct forbidding of the companies to use it. But after some months when I was beaten, and had lost, as it were, interest in the subject, permission was given. But the thing had passed, and I could take no further steps about it. I think that Admiral Bowden Smith is perfectly right in going for what is called the Morse system. The Morse system is simply the application of the flashing system of signals with the Morse alphabet instead of the figure signs which we use in the Navy.

Admiral BOWDEN SMITH: Did use.

Admiral COLOMB: Do use with the signal-books. It is a different system of notation, that is all that it really comes to. The fact that there is a difference of notation apart from the Morse system rested first on the form of our signal-books in the Navy, and secondly upon the immense difficulty of getting the Navy at that day—twenty-eight years ago—to understand what it had got before it. It would have been impossible then to have induced the Navy to adopt the Morse notation with the flashing system, it was hard enough to get them to adopt a notation which was very much more simple. But time has gone on, and for ten years past I have urged that the time was come for abolishing the original system of notation in flashing signals both by day and night, and fully adopting the Morse notation. And the signal-book in the mercantile marine lends itself directly to this, and almost compels you to adopt the Morse notation. I feel quite sure from what I hear that some of the larger steamship companies are almost on the point of moving for themselves in this matter, and that the very slight encouragement which they are now getting, and which I hope will be continued, will induce them to adopt it. I quite agree that as soon as the thing is started, it really is so simple and easy, it will grow. The fact that the Morse notation is used for nearly all telegraphic messages and all telegraph work makes it all the more easy to establish in the mercantile marine, and its already being established in the Navy gives a further advantage to it. In time of war the fact of the mercantile marine being able to communicate with one another and with the shore, for that is most important, at considerable distances by night and by day, and also in fog, all of which are to be done by the flashing system, is one the importance of which cannot be exaggerated. I am very much obliged to the members for the attention they have given to me.

Sir J. C. D. HAY, Bart., K.O.B.: This very excellent paper which Captain Crutchley has put before us requires very little explanation to make it clear to any one of us, but I am particularly anxious that in his reply he should make it apparent to those outside this theatre, as it is entirely apparent to those within it, that these suggested lines are merely a very small fraction of the lines which would have to be protected in case of war: that, as a matter of fact, they are but two lines out of at least six important lines which it would be necessary for the Navy to protect, or on which it would be necessary that merchant steamers should be armed. Captain Crutchley should also make it apparent to those who may read the paper and may not have heard, or seen the map which he has produced, that the illustration given of these routes depends upon the closing of the Suez Canal, which he anticipates may possibly occur, and I trust it may occur, for it would be greatly to our advantage if the Suez Canal were blocked in war. In such an event, a large proportion

of our commerce would come upon these routes. But with regard to these routes I should like to say this: Captain Crutchley appears to assume that the River Plate, Rio Janeiro, Bahia, and Pernambuco, would be open to our commerce. My impression is, Brazil being neutral, and looking to recent interpretations of contraband of war, they would not be so open, and the commerce coming through the Straits of Magellan from Australasia or the Pacific would have no place to call. Sandy would be closed in the Straits of Magellan; the Falkland Islands are not protected; Berkeley Sound is not in the scheme of these harbours to be protected and protected coaling stations. It would therefore be necessary, in my opinion, for that route which Captain Crutchley suggested, along the east coast of South America, to be diverted either to the Cape or to St. Helena. The Cape is about to be pretty well protected. St. Helena, which has been mentioned as having been omitted, but which, no doubt, Captain Crutchley will refer to in his reply, may be rendered impregnable, and may be looked upon as a rendezvous, not only for vessels passing round the Cape, but for those diverted through the Straits of Magellan away from the coast of Brazil to the protected stations on the route homeward. Sierra Leone no doubt is in process of being made very strong; I believe the fortifications are planned, and some of them are commenced, and the guns are about to be made. But it would not be a very pleasant place for all the fleets to rendezvous. Good though the harbour is, as we know, the climate is not the most salubrious. It seems to me that the route which is described on that chart is not a route which could be adopted, in consequence of the absence of coal supply and of the fact that there is no pretence whatever to fortify, protect, or hold the Falkland Islands. There is another most useful coaling station, but it is not to be protected. I allude to Ascension, a most valuable place, which, of course, may get into the hands of a privateer or a foreign Power with great facility. With regard to the question of armed merchant ships, there seems to be a general belief that these merchant ships are very fast, that they are faster than any possible enemy who would presume to interfere with them, and that it would be a case of bolting all over the world, and that there is to be neither convoy nor protection necessary. I recognize the great speed of these vessels, and I myself would be in favour of convoys under numerous merchant ships, partially armed in the manner suggested by Captain Crutchley, guarded and protected by men-of-war capable of steaming as fast as they. But that appears not to be a plan which commends itself generally to the public mind, and I fear we shall lose many single ships unless some means be adopted to give the merchant ships that protection which, in my opinion, I believe they are fairly entitled to, use to defend themselves against all evil-doers. The question is, where are you to get the guns? Captain Crutchley, perhaps, can tell us. I remember when, more than twenty years ago, it was intended for the first time that merchant ships should be taken up for the assistance of the Navy in war-time; it was then proposed that a certain number of guns should be made and put in stock for the purpose of arming them. Many merchant ships have been fitted for the purpose, but the guns are not yet made, and it has been twenty-two or twenty-three years, I think, since that order was given. The privateers which we have to fear, I think, are not entirely the privateers of the Powers with whom we might expect to be at war. I believe there are other enterprising nations who would lend themselves to that particular business, who would require flags which might be valuable to them, and having got those flags there are other nations which have not themselves entered into that most wretched and disagreeable Treaty of Brussels, who would perhaps rather go to war than not defend their subjects if they were successful in the art of privateering. I should be glad to hear from Captain Crutchley, like many of my brother Officers, if he could state why it is that the First Class Naval Reserve is no longer so popular as it was. Is it that the regulations under which the men are accepted are too stringent and higher qualifications are expected, or is it that trade being better they find employment elsewhere, and do not care for the fee which they get to bind themselves to this country?

Admiral Sir E. OMMANNEY: As a naval Officer it is most gratifying to hear from so competent an authority as Captain Crutchley on matters concerning the mercantile marine the views which are entertained by that community on the very important points contained in this valuable paper. I am much struck with one proposal

regarding the armament of great ocean steamers, namely, that they might be fitted with the power of ramming an enemy. I think this is a very practical and simple suggestion, and one which could be carried out in the construction of these splendid vessels without entailing any serious expense on our national companies, and would involve no interference with the arrangements and qualifications of these vessels; as they are driven with such a prodigious velocity they would then be provided with a formidable weapon of destruction upon warships of inferior speed. As an old signal Officer I am pleased to hear that the means of signalling by night between the Navy and mercantile vessels is being organized under the auspices of such a very competent and experienced Officer as Rear-Admiral Bowden Smith.

Captain CURTIS, R.N.: I might suggest, with respect to the relief of these captured vessels, or what is to be done with them, there is another way of redeeming them. The "Alabama" released several of her captured vessels upon their Captains giving bonds, and I believe that those bonds were all honourably met. That would be in great favour, I think, with the crews of the ships. I do not know whether it would be legal or politic on board a man-of-war or not. We are often compared to a fortress in war-time, shut up, and liable to be cut off from our supplies.¹ I never heard it suggested anywhere that we should have three months' corn stored in the country; in Gibraltar and Malta they have a year's store of grain. It might be met in this way, by the Government giving a bounty to merchants or paying them some money for keeping so much corn stored. Captain Crutchley said history repeats itself. Lately I read the history of the old East India Company's service. Whenever our vessels were in a minority our seamen and merchants always suffered, and we lost the Moluccas in consequence; and when Oliver Cromwell took matters into his hand he made the Dutch pay 250,000*l.* compensation for the maltreatment of our merchants and men. With respect to coal, Captain Crutchley said our vessels might use Rio Janeiro. I believe, from what I can learn of the matter of coal, if an English man-of-war puts into a neutral port, that neutral port will only supply them with coal to go to their next coaling station, and they cannot use that coal for war purposes, unless in self-defence. I believe that is correct. There is another point that Captain Crutchley has not touched upon, and that is the route from the Falklands' to Vancouver. Vancouver is getting a very important place, and I suggested to one of the late Commanders-in-Chief on that station that it would meet the approbation of his countrymen if we could get one of the Galapagos Islands, and I believe Chatham Island is a very suitable point, being equidistant between Falkland Island and Vancouver, in a straight line, about 7,000 miles. That group belongs to Ecuador. Ecuador is not a very rich country, and 50,000*l.* might buy one of those islands, and any vessel rendezvousing there—for instance, if you had no coaling station you could put your ships in between the islands, and a man-of-war at either end would prevent any ship attacking them. I did not understand exactly what Captain Crutchley meant by arming merchant ships. I presume the Government would never put arms on board merchant ships unless they thought they were authorized to use them.

NOTE.—Albemarle Island is 4,700 feet high: a good look-out could be kept from there; the islands are in a very commanding position.

The CHAIRMAN (Sir J. Colomb): Before asking the lecturer to reply to the questions that have been asked, I may be permitted to add to the general chorus of approval expressed, not only of the paper but of the persistency of the efforts of the lecturer. It has been pointed out that the people of England are, in spite of this Institution, in spite of many able voices that have been raised, still blind and deaf to the real gravity of this whole question. I think this Institution is also to be especially con-

¹ Page 338, Whittaker:—

Value of wheat and flour imported for 1887...	£31,365,802
Value of three months' supply	7,841,450
5 per cent. interest	392,070

compensation for money dormant the merchants would receive. I think it would, if war were likely to occur, be wise to have six months' stored; it would not amount to $\frac{1}{4}$ d. in the pound income tax.—J. D. C.

gratulated that an Officer of the mercantile marine of practical knowledge, of practical experience, and at this moment closely and absolutely connected with it, comes forward to give us his views upon this most important question. I think the matter would have been very much better advanced years ago, if the mercantile marine had had more Officers who not only thought of these things but were good enough to come and give the naval Officers and the experts who meet here, an opportunity of hearing their views and of having that joint consultation which is necessary for the organization and protection of the commerce of the Empire. I take the grand lesson brought before us in this paper to be, in the first place, that our huge commerce is almost at the mercy, as far as any means of defending itself goes, of improvised raiders under other flags, and that it brings before us this great fact, that practically nothing has been done with regard to the real organization of the means it offers for assisting the Royal Navy by its own protection to a certain extent, and that nothing whatever has been done by this country either to suggest a scheme or to work it out. I do trust and hope that this paper, seeing the marked approval it has met on all hands, will, as my brother said, have a direct bearing and influence upon the Admiralty, and I hope that one of the matters that it will make the Admiralty reconsider is their present programme of subsidizing the best of the mail steamers for the purpose of removing them off the lines in time of war. I took a very strong line in that matter, because I moved the rejection of the first vote, having ascertained in the House that the Admiralty did intend to remove them from the lines in war; I moved the rejection of the vote, and stated my reasons for considering that the plan was bad in theory and would turn out bad in practice. And I might mention, in order to emphasize what the lecturer has said, that there is another point to be considered in removing these steamers from off these lines. Our commerce may be grouped into two classes—the steam commerce and the sailing commerce. I do not speak of it, for I think we are all tolerably agreed upon this, that war means the extinction of the sailing commerce, and therefore it is only necessary, as practical men looking at it from a practical point of view, to consider the steam commerce. Well, now that may be grouped into two great classes, the regular liners, trading regularly between fixed points, and what may be called the all-round trade, and of course there are difficulties connected with organization for protection of the all-round trade that do not present themselves in the case of the regular lines. Now the most important lines are those lines that connect our own Empire, and those are the lines that, unless you are prepared to lose that Empire, must be maintained, and not merely maintained by the Royal Navy but the actual traffic between these different parts of the Empire must be kept going. What happens when you remove the best ships? Take India, take the P. and O.: the proposition is to take the best of the P. and O. ships off the lines on the outbreak of war, and to pay them in peace to enable you to do so. When war comes, when carrying out that policy of removal off the line, it will be a matter of the most vital importance that your direct communication should be kept up, and both as regards the actual value of the trade and the rapidity of communication that will be a pressing necessity in war. What are you going to do? You are going to take the best ships off the line, those ships that possess the quality that gives the greatest safety to a merchant steamer, that is her speed. You are going to take the fastest ships off the line on purpose that when the hour of peril comes the remainder of the line shall be in extreme danger. And you do more than that: you send up the price of freight on that line, because you at once raise the insurances. You are defeating your own object, and for this reason, you take the best ships off the line: you force your mails, your passengers, perhaps your troops, your valuable cargoes, your specie, everything into slower ships, and in proportion—I think it is quite obvious—to the speed and power of the merchant steamer, so will be the insurance risk. Therefore I do trust and hope that coming from a man of practical experience like the lecturer, being backed up by the naval Officers as he has been on that point in this theatre, the paper to which we have listened to-day will certainly put a nail in the coffin of a policy which we cannot look at without dismay. To give you another reason. The P. and O. lines to India, the “Union” and the “Castle” lines to the Cape, the New Zealand lines, all these are subsidized for keeping up the internal postal communications of the Empire. How has it come about that they

are so good and have such magnificent ships? It has come about in this way, that the necessities of your position in peace demand it. They have been subsidized and assisted by mail contracts. These mail contracts—take the case of the Cape or India or Australia, whichever case you like—these subsidies are joint subsidies made up of contributions from the mother country and your Colonies and possessions, which they connect by their operations of trade. And I am quite certain of this, that when war breaks out, though the Admiralty may have paid during peace for the right of taking them off the lines in war, the Admiralty would not be able to do it for this reason, it would be breaking faith with your own Colonies and dependencies at the hour when they most require their mails, passengers, and trade services best performed, and you propose to cripple them all by removing from their lines their fast vessels. What are you then to do instead? I agree with what is indicated in this paper. You must deal with the mercantile marine in groups. The organization of your mercantile marine for the defence of your Imperial routes, connecting your own Empire, must, I believe, be your first care. You must deal with companies as you now deal with the individual ships. The "Castle" or the P. and O. and all the other companies must understand that when they get a postal contract it means they are to run in peace and in war, and further it means that it is the business and duty of the Admiralty so to promote and foster the growth of organized fighting efficiency of the various companies' fleets as far as can be done without undue interference with trading requirements, that they shall be as it were an armed fleet in war, carrying on the communications of the Empire, and also running down the lines of the all-round trade by sometimes perhaps a little diversion from the ordinary route. That appears to me to be the true policy, and the policy which I hope, by the persistent efforts of the lecturer and such speeches as we have heard to-day, may at last be forced upon the mind of the Government. The lecturer has said, "I cannot conceive any one calmly contemplating the transfer of our ships to foreigners." I will emphasize what my brother said with regard to the apathy of shipowners. I heard the Vice-Chairman of this very Union Shipping Company in the House, within the last few days, calmly indicating to the House that it was preposterous and absurd to suppose that you could protect your commerce in war. No doubt, in his ignorance, he believed that, and has quoted the "Alabama." Well now, I think that people quote the history and the results of the cruise of the "Alabama" without really having thoroughly studied the question. I think the lesson to be learnt from the career of the "Alabama" and the American War is a very remarkable one, and a lesson we may well take to heart—the want of appreciation of the American Government at the outbreak of war, of what naval war meant. You may remember that on the outbreak they called together a sort of council of eminent men of New York to ask what should be done for securing the blockade of the Southern States, and this council suggested that if they had thirty ships they could blockade the whole coast of the South. In a very short time, however, it was found they could hardly, with improvised war vessels, do it with 600. But the other lesson which is to be learnt by the "Alabama" is simply the lesson which is largely indicated by that very chart of the lecturer's, and those who have read and studied the cruise of the "Alabama" will find that her success, as Captain Semmes himself points out in his book, was due to the fact that the Navy Department of the United States knew nothing at all about their business. I should like to quote a passage from his own journal. He writes about the despatch of vessels to catch him, and he says, writing in his journal at sea in the West Indies, "The enemy has done us the honour to send in pursuit of us the 'Powhattan,' the 'Niagara,' the 'Iroquois,' the 'Keystone,' and the 'San Jacinto.' Not one of these vessels ever caught her, although there were several others looking for her;" and then he explains the reason: "The Mona passage being the regular track of the U.S. commerce, it was looked upon as almost a certainty that at least one cruiser would be stationed for its protection." But there was none. And then Captain Semmes, writing just off Pernambuco, says: "Where can all the enemy's cruisers be, that the important passages we have lately passed through are all left unguarded?" And then he finishes off: "The sea has its highways and byways as well as the land. . . . If Mr. Wells (Secretary of the Navy Department) had stationed a heavier and faster ship—and he had a number of both heavier and faster

ships—at the crossing of the 30th parallel, another at or near the Equator, a little to the eastward of Fernando de Noronha, and a third off Bahia, he must have driven me off or greatly crippled me in my movements. A few ships on the other chief highways, and his commerce would have been pretty well protected. But the old gentleman does not seem to have thought of stationing a ship anywhere." The whole lesson of the "Alabama" is this, to exercise our intelligence and our forethought to recognize the real work you would have to do in war, to utilize our resources in every way, and proceed in the manner and direction indicated by this paper; and as to our commerce being swept from the sea, I for one do not believe it, unless we are unworthy of the trust imposed upon us.

Lieutenant CRUTCHLEY: There are one or two points upon which questions have been asked me. The first one is that matter of night signals between vessels at sea. I do not think, myself, there would be the smallest difficulty in introducing them into the merchant service, and I feel convinced it could be done with very little trouble, but at the same time, if these Morse signals are introduced it would be as well for vessels on the long routes to have paper sealed books, for which I asked in my last paper. There would be no more trouble in using them in war-time than in using the ordinary books. My reason for not mentioning St. Helena as a coaling station was because, if you look at the distance between Cape Horn and St. Helena, there is a very great difficulty—the difficulty as between St. Helena and Rio and the Falklands. Vessels coming from Australia would have too far to steam, and that was the reason I omitted it. Of course it would be of use for vessels between Table Bay and Sierra Leone, but I do not see that it would be practical to make one convoy if St. Helena were made a rendezvous, in other words, for the ships to come from Australia *via* Cape Horn to St. Helena, and join the Cape ships there; it would be too far to steam. Captain Fitzgerald supposes that if our Navy is increased it will be able to cope with all the enemy's war-ships, so that there will be none left to harry our commerce. If other nations are to be bound by the Treaty of Paris with ourselves, and unable to carry guns and unable to fit out their merchant ships, there would be no necessity for us to do so, but it appears to be assumed, and I think we are fair in assuming, that foreign nations, France, for instance, would not consider herself hampered by the Treaty of Paris, and they would undoubtedly fit out their faster vessels with guns in such a manner as that they could harass and catch ours.

Captain FITZGERALD: Are we to understand we are to be bound by the Treaty and others not? I cannot accept that.

Lieutenant CRUTCHLEY: The French mail steamers undoubtedly have privileges denied to our own. They claim the right, in the Australian ports, of men-of-war, and they have it, so that when I ask that these mail steamers of ours should be armed and put into a condition of defence, as I have said several times, it is not any question of their contending as men-of-war, but simply putting them into a condition to enable them to meet vessels of their own class on equal terms, and I think it very hard to see that there should be a one-sided game, and that these vessels should have privileges which we have not.

Captain FITZGERALD: Does not your R.M.R. give you the same authority to fight as a Frenchman?

Lieutenant CRUTCHLEY: I think it does; I do not think there is any doubt of it, but the fact remains that these Messageries steamers have rights which are denied to us. As to the falling-off of first-class men of the Reserve, I am unable to give any reason for it, but that it is so I have on very good authority. I think if some effort were made to encourage the Reserve, the thing would be altered. Seamen have deteriorated in many respects and are not as well qualified to maintain their rating as they were; they cannot do the old tricks of sailing in the way they were done twenty years ago, they have not the training, but they are as good Englishmen now, and as good for the work they have to do, as ever they were. I have heard people say there is a prejudice against carrying Englishmen in their ships, and they prefer foreigners. I can only say, from what I have seen of Englishmen, I have sailed with English crews under the Blue Ensign for the last twenty years, I have had no trouble worth speaking of: they have always done their work well. Sir John Hay spoke as to where the guns were to come from that were to be supplied

to these vessels. In the year 1863 there was a circular issued by the Admiralty that they were prepared to supply guns to vessels of a certain size if the owners would guarantee to build magazines and keep things in proper order. I tried to work on that end to see if there was anything to be got out of it, but every one has forgotten all about it. But if they thought it was necessary to do it at that time, I think it may be found necessary to do it now, and I think from four to six quick-firing guns should be supplied and put in vessels on these long routes. In conclusion, I have only to thank you for your very kind reception of my paper.

The CHAIRMAN: I am sure you will all heartily agree that the lecturer deserves a most hearty vote of thanks.