



## Fortification and Fleets

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GENERAL THE RIGHT HON. VISCOUNT WOLSELEY, K.P., G.C.B.,  
G.C.M.G., &c., &c., Adjutant-General to the Forces, in the Chair.

### FORTIFICATION AND FLEETS.

By Major G. R. WALKER, R.E.

Major G. R. WALKER, R.E.: May I be allowed to preface my paper by a brief explanation? After I had undertaken to prepare a paper on this subject, and before I had time to complete it, Admiral Colomb read a paper in March,<sup>1</sup> which seemed to me to change the aspect of affairs very considerably. Admiral Colomb's paper left me in this dilemma, that if I did not take any notice of it, but read my paper according to my original plan, I could only have done so from two considerations: the first, that there was nothing in Admiral Colomb's paper to answer, which, of course, was absolutely precluded by the Admiral's ability and weight in all matters of this kind; and secondly, the conclusion that must have been come to if I had merely read an abstract paper upon fortification without noticing Admiral Colomb's arguments, would have been that there was no answer to them. I, therefore, felt bound to answer, as far as in me lay, Admiral Colomb's objections to fortification, as I imagine them to be. But in doing so I have been obliged to cut out a very large part of the original paper, and, I am afraid, to curtail it in a very unsatisfactory way, and especially I have been obliged to leave out all reference to some modern scientific improvements, in their bearing upon fortification, which I was very anxious to mention: two especially, position-finding, and the introduction of pneumatic guns—position-finding, more particularly, because, in a recent paper in this theatre, it was very incorrectly described, and I thought it would be well, perhaps, to say a few words about it.

ENGLAND is the only civilized country where, at the present time, it is possible to stand up and to deny, with any chance of acceptance, the utility of permanent fortification. The discredit which in this country alone attaches to this, one of the most useful subsidiaries of defence, is due to our insular position, and to the very widespread superstition which exists amongst Englishmen that the sea alone is a sufficient defence, and that they can, in consequence of their separation by the sea from the European Continent, look down in selfish complacency upon the struggles and sacrifices of the less favoured nations who are cursed with land frontiers.

<sup>1</sup> "On the Relations between Local Fortifications and a Moving Navy" (see Journal, No. 147, page 149, *et seq.*).

This unreasoning dependence upon the protection afforded by the accident of insularity may possibly be traced to our great national poet, whose sentiments colour largely, though often unconsciously, much of the popular thought even of our own day.

The well-known lines—

“This fortress built by Nature for herself,  
Against infection and the hand of war;

\* \* \* \* \*

This precious stone set in the silver sea,  
Which serves it in the office of a wall,  
Or as a moat defensive to a house,  
Against the envy of less happier lands.”

echoed as they have been by many subsequent writers, are probably largely responsible for the fact that the average Englishman looks with suspicion, the unreasoning suspicion of ignorance and prejudice, upon those who feel it to be their duty to enlighten him as to the real nature of the dangers to which the country is exposed, and as to the folly of trusting exclusively to the maritime frontier for defence. But though this popular ignorance is no doubt widely spread, I hardly expected to find Admiral Colomb appealing to it in his letter to the “Times” (11th March, 1889), with the time-worn platitude “Britannia needs no bulwarks, no towers along the steep;” the alternative being of course the wooden walls.

In fact, says the gallant Admiral, Britannia rules the waves, and in his paper lately read in this Institution, he asserts that there is consequently no fear of any territorial attack, not only on the shores of these islands, but even on any part of the Empire, and in his character as advocate he goes so far I think as to attempt to show that we may dismantle our fortresses as being useless, though he shrinks apparently from the further deduction drawn by General Erskine from his paper, that we should also disband our land forces.

In his general reply to the discussion on his paper Admiral Colomb, as I understood him, withdrew so far from the position which he had assumed in order to invite discussion, as to admit the usefulness of fortification within certain limits, and only to object to its employment on a large scale. He did not, however, define the amount of fortification which he would admit, except in a rather vague and unwilling concession of “light batteries” for the commercial ports. But his concessions in this theatre seem to me completely revoked by his letter to the “Times” of the 11th March, in which he says, “the discoveries of science and the fluctuation of opinion have been fatal to fortification;” and in an able leader in the “Times,” on the morning after Admiral Colomb’s lecture (1st March),<sup>1</sup> we find all his arguments pushed to their logical conclusions, with the inevitable result plainly stated in these words, viz., “Every penny spent on fortifications before our Navy is made strong enough to take and keep command of the sea is a penny wrongly spent, to say the least, if not absolutely thrown away.”

Again, Professor Laughton, in the “Morning Post” (9th March),

<sup>1</sup> See Journal, No. 147, page 140 *et seq.*

enforcing Admiral Colomb's arguments, accuses those who took part in the discussion on Admiral Colomb's paper, especially the military Officers, of having misunderstood him so far as to believe he wished to leave our ports undefended, whereas, he says, Admiral Colomb only contended that they should be rightly defended, *i.e., by ships*. But that there might be no mistake as to the meaning of his paper, Admiral Colomb, in his letter to the "Times" already quoted, institutes a comparison between ships and forts, to show that the reverse of the commonly received opinion is true, that ships last from generation to generation, while forts have to be pulled down about every twenty years, to make room for their successors; this, broadly stated, is the gist of that letter.

Now putting aside all fine distinctions, the broad meaning of all this is, that until our Navy is strong enough to take and keep command of the sea, not a penny is to be spent (there is the kernel of the whole matter) on any subsidiary such as fortification; and that means, if words have any meaning, cease even to maintain your existing works, and above all do nothing to increase their efficiency, as to do so will cost money which might otherwise be spent on the Navy.

This is the broad issue, and in support of his contention Admiral Colomb brings forward many arguments, appealing chiefly to history. Now this appeal is perfectly just; the principles of strategy are universal and unchanging, but it must be accompanied by a fair consideration of the fact that even in the sphere of strategy the changed conditions lead to some alterations, not in the eternal principles, but in their application under given conditions.

On page 5 of his paper, Admiral Colomb says: "Steam and electricity have everywhere replaced uncertainty and chance by certainty, and have immensely shortened times and distances as measured by times;" but he has omitted a very important point, which has a large bearing on the question at issue, *viz.*, that they have also greatly increased the frequency of the *necessary* communications with the base, both for the supply of coals and for refitting. This omission is, I think, a fair example of the half truths by which Admiral Colomb's arguments are sustained.

Admiral Colomb, in his paper, maintains the following propositions, *viz.*:—

1. That at the commencement of a war the superior naval Power takes command of the sea, and that she never loses this command at any time or in any place during the struggle. Wherever an enemy's squadrons appear they are at once confronted by a superior force of the superior naval Power, and instantly driven back to the cover of the land forts, which are admittedly useful to the inferior naval Power.

2. That no enterprise against an enemy's territory or fortresses is possible within 700 miles even of an inferior hostile fleet, and that such enterprises must always be abandoned if there is the least chance of the loss of command at sea.

3. That a fortified base confers practically no advantages upon a

fleet, either in the way of freeing the fleet for offensive operations at sea, or of facilitating its refitting.

4. That the possession of maritime fortresses follows the command of the sea.

5. That fortifications have never resisted a determined attack from the sea.

And in his letter to the "Times," quoted above, he adds a rider, viz.:—

6. That ships are long lived as compared with land works, and therefore more economical.

I shall now endeavour to meet these contentions in detail.

1. The assumption as to the command of the sea involves the attainment by the superior navy, *at the outbreak of war*, of a condition of comparative superiority to all other naval Powers which is perfectly Utopian. It is undeniable that if the British Navy be so strong that it can watch every possible enemy with a superior force, protect every port and every trade route over the whole surface of the globe, chase and bring to justice every "Alabama" that may break loose from any neutral port to prey upon commerce, and do all this with a force which shall provide ample reserves against every casualty caused by the manifold dangers to which the complicated modern war steamer is exposed, then Admiral Colomb's argument is unanswerable from the military point of view; everything has been done, therefore nothing remains to do. But the question would even then remain, is this the most economical method of doing the work? Certain duties of local defence of depôts, arsenals, &c., have (I assume for the present) to be performed, and to perform them efficiently in the absence of local defence, some portions of the superior fleet must be detached as permanent local guards for these ports. It is not necessary to argue that for such purposes the defence could be more economically carried out by coast defences; even Admiral Colomb's strong supporter, the "Times," says (30th August, 1887): "Ten or twelve guns can be mounted, *even in War Office cupolas*, for less than the cost of a single ironclad," and "these guns would render the Mersey or the Clyde secure at a fraction of the cost of defence by a fleet." Truly "a Daniel come to judgment."

I know it will be objected, but we have, *ex hypothesis*, command of the sea, and we need not therefore detach ships because every squadron of the enemy will be opposed by a superior British squadron, and therefore if he appear before a port for the purpose of attack, the superior British squadron will be there for defence, and until the enemy's squadron appears, the port may be left to itself, for there is no one to attack it. Now if this be true, it is true of Portsmouth or Plymouth or Malta, as well as of the ordinary commercial ports, and all such naval arsenals may be left undefended; indeed the gallant Admiral in his paper, in putting the imaginary case of the appearance of an enemy's squadron off Plymouth, expressly asserts that the fortifications are perfectly useless, and that even without them the place would be unassailable, because of the flanking fleet off Brest.

Now let us look at some facts: there is, I presume, no doubt that

England had the undisputed command of the sea after Trafalgar, and up to the end of the war: "In 1810 we had 664 cruisers at sea as against 105 in 1887, and though 19 of the enemy's cruisers were captured in less than a month, still in one fortnight, 20 British ships were captured by the enemy close to our coasts."<sup>1</sup> Where were our superior fleets; why was there not a superior force present on every occasion to save these British ships? Simply because it was an utter impossibility, even for the large number of ships we then had at sea, to be everywhere, even over the comparatively limited areas then to be watched and guarded, and how much more would that be the case to-day? Admit even the inadmissible, that the British squadrons are sufficient to watch all the enemies' fleets; that they are impervious to all attacks by any possible enemy; that for once in war the unforeseen shall never happen, that the weather shall be as complaisant as the enemy is weak; that there shall be no dangerous rocks, no hidden shoals, no earthquake, no hurricane, no worn-out boilers, no broken down machinery; admit, in fact, the impossible, and still what remains? Why that even by Admiral Colomb's own admission, the sea will be covered with the enemy's cruisers which cannot be restrained from taking the sea and doing mischief, and as a necessary consequence that every important base and every naval arsenal, if left undefended by fortification, will have to be watched and defended by ships told off for the purpose and chained to the port. Because I assert that Admiral Colomb's assumption that such cruisers would not attack undefended ports for fear of interruption, is altogether untenable.

He says, in the imaginary case of Plymouth quoted above, that the dread of interruption would prevent an enemy from sailing up the harbour and destroying the dockyard, even though there were no fortifications; but this makes surely too great a demand on our credulity; naval history may answer "No," but what would be said by his superiors to a naval Officer in command of a powerful modern cruiser, with all the means of destruction at his command, who should refuse to strike such a blow as the destruction of one of our great naval arsenals for fear of interruption? Steam gives certainty; quite so. It would give this Officer just a certain number of hours to blow in dock gates, burn the dockyard, and the certainty of being able to leave again, bar accidents, just in time. The matter is hardly susceptible of further argument; it is a practical question, which I rejoice to think has been put out of the power of an enemy's cruiser to decide against Admiral Colomb, by the common sense of our rulers, who have fortified Plymouth.

But let us look outside the British Isles and the narrow seas: the British Empire is scattered over the habitable globe, and if reasons have been given for refusing to believe that even the most powerful fleet can ever keep the coasts of the home islands entirely free from the enemy, how much more will it be impossible to protect every dépôt and dockyard throughout the world.

<sup>1</sup> Admiral Colomb, in "Manchester Courier," 3rd December, 1857.

We have been considering the question hitherto on the assumption that we have the command of the sea, to the fullest possible extent to which it can be assured, by raising our fleet to the position of superiority demanded by naval Officers, but let us descend into the region of practical politics, and ask what this fleet is, to which alone we are requested to entrust the safety of the naval arsenals and depôts. Why by the confession of the Admiralty itself, a sum of about 12½ millions must be spent, in addition to the usual estimates, within the next four years, not in order to create an ideal navy, but simply to bring the Navy up to a condition to enable us to fulfil the *minimum* requirements in a war with any two naval Powers. In other words, the Navy is at the present moment short of a large number of ships to the value of 12½ millions of money, and this is the result of the administration in years of profound peace, during which we have been told over and over again by official authority, that all things were well with the Navy. Is this an encouraging time to ask us to put all our eggs into one basket, the Navy?

Again, are these 12½ millions sufficient? Supposing we get through the programme, and at the end of four years have 70 ships added to the Navy, shall we then be able to take and keep command of the sea, in the sense meant by Admiral Colomb? I will quote some naval opinions.

Admiral Sir G. Hornby<sup>1</sup> states our requirements in cruisers alone at 186, of which we had only 22 which he considered efficient; and the same gallant Officer,<sup>2</sup> in reply to Mr. Forwood, who had said that his demand for 186 cruisers was absurd, states that in 1794 we had 180 cruisers at sea, in 1803 during the Peace of Amiens, 146 in commission and 178 in reserve, in 1804, 257 at sea, in 1812, 444 at sea. He wanted, he said, only 57 new cruisers to make up the required number; he then adds some caustic remarks on the system of administration which, with 106 cruisers in commission, and 23 ready for sea, had actually only 37 effectives out of the whole lot.

In another letter to the public press<sup>3</sup> the same gallant Officer gives the number of ironclads required to blockade the 14 French ships at Toulon as 16, which would require 24 ironclads in the Mediterranean (we had, I think, 7 or 8 in that sea at the time), while we had only 28 all told. He considered that 12 additional ironclads should be built.<sup>4</sup>

Sir John Hay, speaking of battle-ships alone, said, if I recollect rightly, in a discussion in this theatre, that we wanted 28 additional battle-ships, and he put their cost at 27 millions. But there are only 8 battle-ships in the new Government programme.

<sup>1</sup> In the City, 5th June, 1888.      <sup>2</sup> "St. James's Gazette," 11th July, 1888.

<sup>3</sup> "Daily Telegraph," 25th July, 1888.

<sup>4</sup> But in the "Fortnightly" for November, Admiral Hornby, after the experience of the naval manœuvres, puts the requirements much higher. He says there that to blockade the 16 ships at Toulon would require 22 British ships, which would necessitate raising the Mediterranean fleet to 33 battle-ships; and he consequently puts our total requirements at 30 additional battle-ships and something like 250 cruisers.

Finally, in the report on the naval manœuvres published in the "Times," 21st February, 1889, it is officially stated that "Great Britain is *very far* from being as strong as she should be on the seas." And the Committee proceed to give details of the work required to be done, which considerably emphasize the "*very*."

I do not pretend to decide between the conflicting estimates given above, but one thing is absolutely clear, viz., that there is a consensus of naval opinion as to the insufficiency of the Fleet, and a very strong body of opinion that the proposed increase is inadequate to bring the Fleet up to the minimum requirements of safety; and yet it is at this crisis that we are invited to agree to the proposition that the defence of our naval arsenals and depôts by fortification is an exploded error, and that their protection should be left altogether to our all-powerful Fleet.

There is also a claim made, the fallacy of which should be noticed; that as the Fleet is increased, so the amount of money spent on fortification should be diminished; but since it is admitted that until the Fleet is perfect, and indeed after it is perfect, there will always be a possibility of some of the enemy's ships breaking loose, and escaping the blockading squadron of the superior Power, it follows that these ships, which may be of most powerful types, and may be found in any sea, can only be prevented from making disastrous raids on dockyards or commercial ports by the maintenance of *efficient* fortifications kept up to date defensively and armed with effective guns.

2. "No enterprise against an enemy's territory or fortresses is possible within 700 miles even of an inferior hostile fleet, and such an enterprise must always be abandoned if there is the least chance of the loss of command at sea."

Let us look at the facts. The crucial test of the truth of this proposition is stated by Admiral Colomb to be the conduct of the French Baltic Fleet during the Franco-German War, which, though it had undoubtedly the command of the sea, refused to risk the simple bombardment of the coast town of Colberg because there was an inferior Prussian squadron (three ironclad frigates) 700 miles away in the Jade. Admiral Bouët-Willaumez arrived at Kiøge Bay on the 9th August with seven ironclad frigates; he had absolute command of the Baltic, and could have been under no apprehension of interruption by the Prussian ships from Wilhelmshaven, as they were *blockaded there on the 11th August* by a second superior French fleet. Bouët sailed from Kiøge Bay to Dantzic, where he arrived on the 21st August, and then returned to Kiøge Bay; he passed Colberg both going and returning; why did he not bombard? I have shown that the supposed flanking fleet was itself blockaded, and therefore was quite out of the reckoning. We must look for another cause, and it is not far to seek. The Germans were already in possession of a material guarantee in France, and, I believe, threatened reprisals if their coast towns were injured, and this combined with the loss of *morale* on the French side, and the evident hopelessness of making any real diversion in favour of France, are quite sufficient to account for Count Bouët's inaction. His fleet was also, it is believed, badly found, in fact, he



had every inducement to do nothing. But mark the sequel. On the 13th September, in obedience, I believe, to orders from home, Count Bouët did actually order his fleet from Kiøge Bay to bombard Colberg. Now, at this date, the blockade of the Jade had been raised; the French North Sea Fleet had returned to France (on 11th September), and Bouët knew it; the Prussian ironclads were free, and still the French fleet left Kiøge Bay to bombard Colberg. They were overtaken by a storm, and returned without effecting anything; but if the Admiral had feared the Prussian flanking fleet, would he have given the order, after Sedan, when all hope of success was practically gone, would he have run this risk, if it were a risk?

I will take another example which I think is to the point. In 1854 the combined English and French Baltic fleets amounted to 18 ships of the line and 9 steamers. The Russian fleet which retired before them into Cronstadt numbered 22 ships of the line, 5 frigates, and their vessels. After reconnoitring Cronstadt, and finding it too strong to attack with the means at their disposal, the Admirals proceeded to the Åland Isles, and leaving the Russian fleet, which was actually superior in numbers, close on their flank, they, in concert with a French expeditionary force, landed guns and men, and after constructing siege batteries, attacked and took the strong Russian casemated works of Bomarsund. A small force of about nine ships was left to observe the Russians in the Gulf of Finland; but, as I have said, the lighter vessels of the fleet were entangled in the intricate channels between the islands, and guns and men actually disembarked for the attack of a land fortress, in close proximity to a flanking fleet, which not only might, but which it was expected would, sally out from Cronstadt. Can anything be more clear than that the theory put forward of the extraordinary power of the flanking fleet does not hold good universally?

Take now the case of Gibraltar, as stated in Admiral Colomb's paper: the Spaniards "having command of the sea," in 1780, "made a most determined set at Gibraltar," and the place was only saved by its being relieved in 1780, '81, and '82, by the British fleet; or, in other words, the Spaniards attempted an attack upon a strong maritime fortress, though they were in danger of losing, and did actually (on the occasions named) lose the command of the sea, and were driven off by the British fleet; but they returned again and again to the attack, and the place must have fallen into their hands during the absence of the British fleet but for its fortifications.

Professor Laughton, in the discussion on Admiral Colomb's paper, endeavoured to show the inutility of fortification by asserting that the fortifications of Gibraltar, which enabled it to hold out, and thus necessitated its relief, cost us our American Colonies, by withdrawing the fleet from America at a critical time; but this argument amounts to less than nothing as against the utility of fortification. The British Government may have been ill-advised in wishing to retain Gibraltar, but they did wish it, and the fortification of the Rock enabled them to hold it, which they could not otherwise have done; the fortifications, therefore, completely fulfilled the purpose for which

they were intended, which purpose without them would inevitably have failed.

Then there is the French invasion of Egypt in the face of the hourly fear of interruption by a fleet, which events proved was quite able to hold command of the sea. Nelson left Sicily after the French, and passing them on the way, arrived first at Alexandria, and not finding the French there he sailed north looking for them; the next day the French arrived at Alexandria, and the invasion of Egypt was successfully accomplished. This is a very remarkable case: here is the greatest and most energetic of Admirals sailing all round a large hostile fleet without finding it, though the fleets were at one period barely out of sight of each other, and thus failing to prevent the landing of a great expeditionary force, which was risked by Napoleon on this slender chance. It is true the French fleet was afterwards destroyed, but only because they waited for Nelson's return at Alexandria; had they sailed away they might apparently have avoided him as easily in returning to Toulon as they did on the outward journey. And speaking of this very event, Sir G. Hornby asks very pointedly with reference to Nelson's failure to intercept the French fleet, "Are we sure to outdo him?"

But observe what the result of this theory would be, were it established: it would simply reduce the most powerful fleets to complete inaction, even though they might hold absolute command of the sea, and would apparently put an end to naval war. If Count Bouët's action in the Baltic in 1870-71 was paralyzed by the inferior Prussian fleet at Wilhelmshaven, what was the use to him of his command of the Baltic Sea? He could not even bombard Colberg for fear of expending his ammunition, he could therefore have undertaken no other operation which would result in the expenditure of ammunition, and his fleet, though holding command of the sea, was for all purposes of war practically non-existent. The mere statement of this dilemma shows the untenability of the proposition.

3. "A fortified base confers no advantages upon a fleet."

"It does not give freedom of offensive action." In his lecture, and subsequently, Admiral Colomb asserts very strongly that on this point no attempt even has been made to answer him. His argument I understand to be as follows, viz.: a fortified port as base does not give freedom to the defender's fleet, because the port not only requires to be locally protected, but also to have its communications kept open, and as the land defences cannot admittedly do this, they are utterly useless, and the fleet is just as much bound to the port as if there were no land defences.

There is here, I submit, a certain confusion of ideas. Admiral Colomb is assuming the possession of a superior fleet, and therefore it will be impossible for the enemy to keep ships continually lying off any of our ports, for the purpose of closing the port and capturing the commerce frequenting it, and therefore unnecessary for the superior fleet to keep vessels continually on guard for defensive purposes. What we admittedly have to fear is the breaking away of one or more of the enemy's powerful cruisers, who, if there be any

important port left undefended, will certainly make a raid upon it; or else a temporary loss of command of the adjoining sea, by some naval disaster. In either case the port attacked will necessarily be closed while the enemy is in the vicinity, and probably considerable damage will be done to commerce, such as was done continually along our coasts in the Napoleonic war. The ports themselves, however, will, if fortified, remain uninjured, and ready as soon as the enemy is again beaten off to resume their rôles as naval or commercial harbours; whereas, on the other hand, if unfortified, any superiority established by the enemy, no matter how small or how short-lived, would result, in the case of the naval port, in the destruction of the docks and other permanent adjuncts to the efficiency of the fleet, and in the case of a commercial port, to the infliction of a heavy fine, as well as to possible disastrous destruction of property, and of the facilities for future resumption of commerce. The inevitable results would be, I submit, that our fleet would, if the chief naval bases and commercial ports of this country were undefended by fortification, be greatly hampered in their offensive operations, by the fear of the destruction of these important interests during even a temporary absence.

Take again the imaginary instance of the blockade of Brest. Suppose an enemy's fleet shut up in Brest succeed in forcing the blockade with even one or two powerful swift cruisers, an assumption that I may fairly make, as after Berehaven Admiral Colomb admits, that "judgment must be suspended on the point whether *any* force would be competent to seal up a determined and enterprising enemy." What then would happen? Why the blockading fleet must inevitably return with all speed to protect its threatened home ports, thus releasing the bulk of the enemy's concentrated fleet for any mischief they can compass; while if those ports are secured by efficient local defences, they may be left in safety to their own resources, and the escaped cruisers to the tender mercies of the cruisers of the superior naval Power. I presume, therefore, that in this latter case the blockade might go on without interruption, the Admiral being freed from anxiety by means of the fortification of his base.

This view seems to be amply proved by the result of the naval manœuvres; the escape of a few ships from Berehaven obliged the British Admiral to abandon the blockade and to return in all haste to endeavour to protect the commercial ports.

But, again, leaving the home islands and the narrow seas, let us take the case of the Mediterranean, and imagine a blockade of Toulon, with an unfortified Malta. What would happen? We must, as is admitted, presume the possibility of the escape, at all events, of a part of the blockaded fleet. Anxiety for the fate of his base at Malta, left to the mercy of an unknown force of escaped vessels, will undoubtedly induce our Admiral to raise the blockade, giving liberty to the whole Toulon fleet to proceed on any enterprise it may desire to accomplish, with no certainty whatever that our fleet would catch them again in time; chained as it would undoubtedly be to Malta, until it was absolutely certain the enemy had gone elsewhere. But with Malta secure against all but an attack in great force, how different would be

the feelings of the blockading Admiral off Toulon; he could look with confidence on the security of his base and hold fast to his enemy.

Then there is the important question of refitting: Admiral Colomb has stated that an Admiral in command of a fleet is just as well off with an open roadstead as a base, and has given as an instance Nelson's operations in the Mediterranean, when Malta was in the hands of the French, to prove this contention. On this point we had a very valuable criticism by Sir Lintorn Simmons, who pointed out that during his period of command at Malta he had particularly noticed the frequency of the repairs which were necessary for the modern war vessel, even when engaged only in the ordinary duties of cruising in time of peace. This is, in fact, one of those points where a failure to bring prominently to notice the altered conditions of modern naval war vitiates the entire argument; it is quite possible that Nelson may have got on very well with his wooden fleet in open roadsteads, but how about the modern ironclad? Can it be contended for one moment that her necessities are as easily satisfied as the wooden line-of-battle-ship? In the item of coals alone her wants are incessant and enormous, and she must have a secure *dépôt* of supply. She is practically a moving fort, full of the most delicate and intricate machinery, which needs constant attention, and may at any moment need repair which requires the service of skilled artificers and well-found workshops to carry out; her very fabric, though so strong, is infinitely more subject to dangerous injury from modern modes of attack than was the fabric of the wooden liner from the offensive weapons of her day, not to speak of the everyday dangers of tempestuous seas and unsuspected rocks. All these things are against the iron-built ironclad steamers of to-day, and to assert that any open roadstead, selected from its convenience to the locality of the intended operations, will be as useful to a fleet of such vessels as a fortified and secure dockyard, seems hardly to require refutation by argument.

4. "The possession of maritime fortresses follows the command of the sea, illustrated by the cases of Malta, Gibraltar, and Minorca."

It must be observed in the first place that all the cases cited are very peculiar; two of them are small islands, only attackable from the sea, and Gibraltar, being practically impregnable on the short land front, is similarly open to attack only from the sea; and, in the second place, the facts even as regards these do not seem to be as alleged. The Spaniards had the command of the sea, 1780, '81, '82 (I quote Admiral Colomb), but they did not take Gibraltar. Why? Because it was strongly fortified. The French lost command of the Mediterranean in 1798, but we did not take Malta, it only fell two years after, by famine. Why? Because it was strongly fortified. Minorca did change hands rapidly with the alternating command of the sea. Why? Because it was not strongly fortified. But did any maritime fortress not thus peculiarly situated change hands with the command of the sea? Certainly not. We had absolute and undisputed command of the sea from Trafalgar to the end of the war; did the French maritime fortresses fall into our hands? This assertion may therefore be watered down to this very simple and well-known fact, that a fortress

which cannot be relieved must eventually succumb; but to say that this proves that one should never possess a fortress, is hardly a logical conclusion.

5. Again, "Fortresses have never successfully resisted an attack from the sea;" the obvious answer to this is, that we did not even venture to attack Cronstadt; and we failed miserably in the naval attack on Sebastopol; but I understand that Admiral Colomb has explained this away by saying that he meant by "attack from the sea," an attack by troops landed from ships, as, for instance, at Sebastopol; but here, as the attack was purely a land attack, and had no other relation to the navy than that its supplies came by sea, I hardly see what argument can be grounded upon it. We all know and admit that a fortress *adequately* attacked must eventually fall, simply because the superior force, which is capable of reinforcement in men and means, must weary out and destroy the *morale* of an inferior force, which, by the hypothesis, is not relieved. This has, however, no bearing on the point now at issue.

6. But the most hazardous statement made by Admiral Colomb is that contained in his letter to the "Times" of 11th March, in which he endeavoured to prove the superior durability of ships to forts, with a view to showing the absurdity of spending money upon the latter; and as this letter appeals especially to those who are likely to be equally uninformed as to the technical details of forts and ships, it seems to me to be peculiarly disingenuous.

What is the argument? "The ships built, beside the Martello towers" (before Waterloo), "lent themselves to the discoveries of science; were turned into steamers and served in the Russian War." Were they really the ships of 1815? While "the Martello towers are all but gone." What, not gone yet! thirty years after the ships have disappeared? I will, however, grant that in their present condition these towers are obsolete, but where are the ships of '54, not to mention those of 1815?

Again, "The steam line-of-battle ships built of wood at a later date lent themselves to the discoveries of science and the fluctuation of public opinion, and took their place as ironclads, the most powerful in the world. Lastly, the iron battle-ships built side by side with the forts of 1859-60, &c., and now things of the past (*sic*)," are, "the First Lord tells us, in process of being re-engined and re-gunned, so as, after lending themselves to the discoveries of science and the fluctuation of public opinion, to start on another twenty-five years' career of usefulness," while "we are distinctly told that the fortifications of 1859-60 are a thing of the past," and "If we are again to have a fortification outcry, and it succeeds, most of the present works must come down before the new ones can be put up." And this Admiral Colomb calls "*going unto history!*"

What are the facts? I will take the earliest type of fort of the period named, the masonry casemate with iron shield, and point out<sup>1</sup> that this undeniably obsolete work can, for a cost per gun of about

<sup>1</sup> Drawings were exhibited to illustrate this point.

<sup>100</sup>th of the cost of a modern ironclad, be re-gunned and made practically impregnable,<sup>1</sup> not against its contemporary re-engined battleship, but against the most powerful ironclad of to-day; while the contemporary ship, though re-engined and re-gunned, and given a new lease of life, will not be an efficient battle-ship but only a cruiser, a ship of the second class—and this is the *worst* fort and the *best* ship.

Take the continuous iron-fronted forts, as at Spithead; they are as efficient to-day as the day they were built, bar the insufficient thickness of the iron skin; but this was foreseen and provided for, and it only wants the allotment of a sum, moderate indeed as compared with the cost of even one ironclad, to bring the defensive strength of these works up to date, while offensively they are up to date, carrying as they do heavy B.L. guns, a marvellous instance of adaptability in works that were designed for the 9-inch M.L. gun; and they may, in the future, be strengthened up to any required thickness of plating, which is manifestly not the case with a ship. Our re-engined ships will not have their strength increased one bit, only their speed and gun power, and another twenty-five years will finish them, while in another twenty-five years the forts will be in their early youth.

Take next the earthen barbette battery, or that with earth embrasures;<sup>1</sup> these need absolutely nothing but a thickening of the earth parapet, which is neither difficult nor expensive, and the necessary alterations to the emplacements to take the new guns when such are provided; and even in the re-gunned ships I presume that there will be some necessary alteration connected with the improved armament. These earthen batteries are, too, practically indestructible by time.

Here I cannot help noticing Admiral Colomb's poetic quotation, "Britannia needs no bulwarks: no towers along the steep;" it is absolutely true, and yet it is as misleading as the remainder of the letter. The word bulwark, in the fortification sense, applies to works much used about the fifteenth century, but long since vanished into the same limbo as the "Great Harry." The towers along the steep are, however, more modern, though hardly less obsolete, and Britannia does not want them either; she does, however, want, and I rejoice to think will have, certain sunken batteries along the steep; it is the most favourable situation for such batteries, as the Allied fleets found when the Telegraph Battery along the steep at Sebastopol, mounting five guns, disabled six line-of-battle ships and was itself untouched, a fact which, I think, to have been quite candid, the Admiral should have added to his letter.

I have hitherto dealt almost exclusively with the war navy, but it must not be forgotten that the fleet exists for the Empire, not the Empire for the fleet, and that a large part of the duties of the fleet in war will be connected with the protection of the commercial marine. It seems, therefore, not unreasonable to inquire how the defence of certain ports, or harbours of refuge, may affect the safety of the trading vessels, whose safe arrival in our ports is admittedly a condition of our national existence.

<sup>1</sup> Drawings were exhibited to illustrate this point.

It seems to be admitted that it will be impracticable to convoy our trade across the great ocean routes; there, in the open sea, our ships must trust to their speed and the sagacity of their commanders to avoid the enemy's cruizers; but as these routes converge into narrow seas the conditions will be different, and here it will no doubt be most advantageous, as has recently been pointed out by a distinguished naval Officer, to have ports secured by coast defences, into which such ships can run if pursued, where they can assemble in security, waiting convoy, if that be possible, through the narrow seas, or waiting for information that the coast is clear for them to make a dash for their destination, or at all events for the nearest fortified port, there to await in safety the next opportunity to move on; such harbours would not have their usefulness limited to the home islands. The foreign coaling stations, to which steamers must converge by the necessities of the case, would likewise, if fortified, afford them a safe refuge while coaling, or refitting, if necessary, and would enable them to await in safety a favourable opportunity for pursuing their voyages; and can it for one moment be denied that the existence of such safe refuges for trading vessels, where they might be safely left to the protection of the port defences, would be of inestimable value to the naval commanders engaged in the attempt to clear the neighbouring seas of the enemy's cruizers, leaving them free from all anxiety for those vessels which had run into the defended ports of refuge, and giving them in consequence vastly increased freedom of action in dealing with the enemy?

If, then, Admiral Colomb's conclusions are wrong, wherein lies the fallacy in his argument? It is, I think, twofold. In the first place, the command of the sea claimed for the superior Power is an absolute command at all times and in every place, no possibility of weakness or failure is admitted, and that this should be a necessary condition to the successful enforcement of his theory, displays at once its fatal weakness. Perfection is unattainable: the best human arrangements must always be liable to failure from a thousand unforeseen accidents, and that this is peculiarly the case in war has long been an axiom. He has also omitted to notice the practical difficulty; the fleet required to carry out his scheme of defence is manifestly entirely impossible of attainment. I have already shown that the additions now proposed for the Navy are by no means sufficient to satisfy naval opinion, and yet as regards even this small instalment an ex-Prime Minister has said in Parliament that he knows no reason for it. What chance is there then of getting the whole naval demand satisfied? But I do not rely on this argument, though it is practically available. I cannot agree that fortification only exists on sufferance because the fleet is weak; if all the money required for the defence of the Empire were voted to-morrow, it would still be folly to spend it all in ships, for two reasons: 1st, because a great deal of the work of coast defence can be much more cheaply done by local land defences than by ships; 2nd, because there is no panacea for all the ills that Empires or men are heirs to. A satisfactory defence of the Empire can only be attained by a just combination of all the elements of defensive

length, ships, forts, material obstacles, organization of men. To slight the value of the Fleet, which is admittedly the most important factor, above all the other component parts of the defence, to trust altogether to the first line without supports or reserves, and, above all, to commit the unpardonable sin in war, of undervaluing your enemy to such an extent as to think any possible precaution against his attacks may be safely omitted from your programme of defence, is to fly deliberately in the face of every lesson of history, and to carry the arts of the quack medicine man into the sphere of national defence.

In the second place it is assumed, equally fallaciously I think, that defeat must also be complete and absolute. This is the basis of the demand for the disbanding of the volunteers as useless on the ground that invasion of this country is unnecessary, because defeat at sea means rapid starvation, and compulsory surrender to any terms demanded by the victorious enemy. I confess that though I do not consider the British fleet to be endowed with a divine invincibility, I have a much higher opinion of its resources than to believe that the dispersion, or even destruction of one squadron, say in the Channel, must necessarily entail the collapse of the whole fleet and the surrender of the Empire, but I do say most unhesitatingly, that such destruction or dispersion may give just the opportunity for invasion, which I strongly believe to be possible, owing to the increased power of transporting troops at the right moment, without waiting for winds or tides, which steam has created. Consider what the prize is, and if a possible invader knew that once across the narrow sea he had nothing more to fear, how enormous the temptation; therefore, I say, with all due respect to Captain Penrose Fitzgerald, organize every defensive measure in its due proportion and in its proper place, and even serve out ball cartridge to the volunteers. "The first shot they fire in anger will," said that gallant Officer, "be the death knell of the British Empire;" suppose we grant even that, for the sake of argument, what will be more likely to defer the firing of that fatal shot than the knowledge that the volunteers are prepared to fire it, what more certain to accelerate the crisis than a suspicion that they have only blank cartridge in their pouches?

What, then, is the rôle of fortification? It is only delay says the gallant Admiral, and this, in a general sense, we may accept; the smallest field obstacle causes delay to the enemy under fire, and so increases his losses, and diminishes his moral force and his chance of ultimate success, the strongest permanent defensive works delay the enemy's attack, say upon a Portsmouth or a Malta, to the extent most probably of deferring it altogether; in either case the effect sought for is produced, and the fortifications have fulfilled the object for which they were created. Between these two extremes there is every variety of development, but the same principle is everywhere involved. The fortifications of the distant coaling station delay its occupation by the enemy's fast cruiser, till she is either compelled herself to retreat for want of coal, or is driven off by a relieving force. But it is said, why spend enormous sums on gigantic works



for this purpose? On this point I can only reiterate what I have already said in this theatre, that there is no enormous expenditure taking place, there are no gigantic works being erected, the defences which are at the present time being constituted throughout the Empire represent an absolute minimum, and strange to say, though all the schemes of defence are the result of joint consideration by military and naval Officers, it will, I believe, be found that the naval opinion in cases of difference was generally in favour of more extensive defences than those undertaken, which were watered down to suit the extravagant soldiers.

Having now, I think, given some reason for distrusting Admiral Colomb's conclusions as to the inutility of fortification generally, and the impossibility of attack by an expeditionary force upon the British Isles, I will venture to assume the advisability of defence other than naval, and to point out some considerations which bear upon the subject, and first, as to our maritime frontier in relation especially to the defence of the home islands; it has been pointed out that a maritime frontier is in its nature very much akin to a mountain frontier pierced by well-defined passes, and impassable at other points: the mountain passes being represented by the harbours, estuaries, or beaches along the coast suitable for the disembarkation of troops; but though apparently similar, there are important differences between the two cases, two of which should be noted, viz. :—

1st. The greatly increased facilities for surprise at the point selected for crossing the frontier, which results from the conveyance of the troops by sea in a compact body, instead of by difficult and narrow mountain roads, and this advantage is often combined with that of being able to put troops on shore simultaneously on a broad front.

2nd. There is the operation of landing from the transports, which introduces a period of great difficulty and danger into the assailant's enterprise, no matter how successfully it has been conducted up to that point, if this landing has to be made on an open beach; a difficulty depending on natural causes (wind and weather), altogether apart from any hostile opposition from the shore, though it is intensely aggravated by such opposition, while interruption from the sea may convert the difficulty into an impossibility fraught with disaster. Hence the value of secure harbours sheltered from the weather, and offering facilities for disembarkation, to an attacking force.

These considerations seem to me to point to the following conclusions regarding the defence generally, viz. :—

1st. The necessity for denying to the enemy, by means of local coast defences, the use of all harbours or estuaries specially suitable for disembarkation, and conveniently situated with reference to his objective point.

2nd. The great importance of a very careful organization of the defending force, and for a thorough system of watching the exposed

points, which, as in the case of much of the southern and eastern coasts of England, may be of considerable extent. I must not be mistaken as advocating an impossible defence by a cordon of troops or works, but only such an organization for the conveyance of intelligence, as combined with a careful selection of points for occupation by concentrated bodies of troops, and the intelligent use of railway communication, may insure that any attempt to land a considerable force shall be met with a more or less powerful resistance on the beach. A force attempting to land is never so helpless as during the period of transit from the ships to the shore, and to abandon all resistance at that point, in order to withdraw to positions, no matter how strong or how well chosen in the interior, is, I think, bad tactics. This was Nelson's opinion, and I think he was right, though the difficulty of carrying out such a defence efficiently, has, I think, tended to increase since his day. Steam alone has largely contributed to this difficulty, and added enormously to the chance of a successful surprise on an open coast, by rendering the assailant independent of wind and tide for his movements, and also by facilitating the actual landing, by the use of steam launches, &c., advantages which, I think, more than counterbalance the advantages of rapid concentration conferred by steam upon the defence.

The greatly increased value of the trained and disciplined soldier, as compared with raw levies, however brave, a value which every improvement in weapons tends to emphasize more strongly, tends also I think in the same direction.

Against coast batteries, however, the case is different, and I incline to the opinion that the chances of successful attack from the sea against such works, if properly designed and constructed, have been lessened rather than increased by modern improvements in arms and appliances of war.

Coast batteries must, however, be restricted to those vital points upon which the organization of our fleets and the security of our commerce depend, and must, as to their nature and extent, be directly proportioned in every case to the magnitude of the interests involved, or rather to the kind of attack which the nature of those interests renders probable.

It may be assumed that for us the great military ports (including Malta) are the only ones which require to be defended on the largest scale; the destruction of the naval establishments at Portsmouth would be so severe a blow to the prestige of the Empire and to the efficiency of the fleet, as to make it worth while to attack it in force if weakly defended, though the danger of attack is greatly reduced if not altogether eliminated by the existence of strong defences kept in an efficient condition.

With the commercial ports the case is different: the object to be gained by their capture would not compensate for the risk of valuable ironclads, and in this case, as well as in that of the great majority of the foreign coaling stations, the attacks to which they are exposed will probably be confined to raids by one or more swift cruisers, and the defences should therefore be designed on a much smaller scale, and

will, if efficient, have very probably the desired effect without firing a shot.

Now, as to the nature of the defences required, they must in the first place be permanent works designed and built in time of peace, for the very simple reason that the mountings of heavy B.L. guns, dealing as they do with excessively violent strains, require for their stability to be so massively and securely fixed, that there is no possibility of extemporizing emplacements for them; and here I must notice the consistent detraction of permanent fortification in articles in the public press, and even in speeches and papers in this theatre. Take, for instance, Captain Stone's opinion "that any elaboration of our complicated systems of permanent fortification is to lose sight of the end in the means," &c., &c., and "a couple of well-placed earthen barbette batteries might do more for the defence than the most approved casemate battery," &c., &c.; but does Captain Stone really think that the earthen barbette battery which he commends is not permanent fortification? And how constantly we hear the cry: "Oh, give us earthworks like Plevna, or like Sebastopol, but for Heaven's sake no permanent fortification." It really seems as if to many persons permanent fortification was synonymous with Vauban's bastioned traces or the so-called modern French system; whereas permanent fortification means simply works of defence, whether simple or complicated, built of permanent materials, as all works built before they are intended to be used must be, and as all works mounting modern heavy guns must necessarily be. How absurd this cry is may be gathered from the fact that the works now being constructed for the emplacements of the new guns which are being added to our sea fronts, though necessarily permanent, would in every case come under Captain Stone's definition of earthen barbettes, except where there is absolutely no earth available.

The types of works in existence in our maritime defences may be placed roughly in three classes:—

- I. The casemated masonry fort with iron shields.
- II. The casemated battery with continuous iron front.
- III. Earthen barbette or disappearing batteries, for guns mounted either on disappearing or overbank carriages.

Of these brief mention has been already made; and I have shown that while the first is practically obsolete in design, in the sense that it will not be reproduced, it may still be rendered capable of a good resistance to modern guns. While the second, given the additional thickness of plating rendered necessary by the increased power of guns, is as efficient now as when it was originally designed for the 9-inch M.L. gun, and might now be reproduced either in Gruson iron, or wrought iron as in our forts, as one of the possible methods of defending certain limited and exposed sites.

But there is undoubtedly a strong feeling in favour of the third class, and it is a fact that every emplacement now being built throughout the Empire is of this class; wherever the sites are low and B.L. guns are provided, it is combined with a disappearing

mounting, and by this means I believe the maximum of defensive and offensive power for shore guns, against ships, is attained. Experiment<sup>1</sup> has actually proved that the chance of hitting a gun so mounted from a moving ship is extremely small.

The system of coast defence now in favour in this country is to take full advantage of the power of modern artillery, in order to disperse the guns both in plan and elevation without losing the power of mutual support, and also to give them the greatest possible amount of concealment by the use of disappearing mountings, and by the assimilation in appearance of the batteries to the surrounding ground.

The adoption of high-angle fire from heavy howitzers is another feature of the present system which promises good results and fortunately at small cost. There are numerous M.L. guns which, with slight alterations, make efficient howitzers; and since these weapons need not be placed even within sight of the water they command, their emplacements can be very cheaply constructed. It has been proved by experiment that the fire of such batteries, directed by position-finders, will be very formidable to ships whose decks cannot be made strong enough to resist the impact of heavy shells descending upon them at high angles.

The following results have been obtained experimentally, viz., 44 per cent. of hits on the deck of a stationary ironclad at ranges of from 3,000 to 4,000 yards with angles of elevation of 30° to 70°, and 20 per cent. of hits on the deck of the "Inflexible," with position-finder, at unknown ranges of 4,200 to 9,900 yards.

The general tendency then of modern progress in coast defence has been towards the dispersion and concealment of guns, and a reliance on the effect of flat earth slopes to deflect the enemy's heavy projectiles, rather than on costly structures of iron or masonry intended to resist them by massive strength. Masonry is used in parapets only where it is impossible to obtain earth, and then in the form of flat slopes of concrete. Advantage is taken of the great range of the B.L. guns to put their emplacements on high sites, in many cases where with the old M.L. guns it would have been impossible, and of the similarly extended range of howitzers, to conceal batteries for high-angle fire altogether from the sea.

Time warns me to touch very briefly on the question of land defences. It is obvious that the gorges of our great maritime fortresses must be secured from being surprised and taken by a *coup de main*, and this is the more necessary because the modern type of coast battery is itself, as a rule, only slightly defensible against assault from the land side, but the land defences need not, I believe, anticipate any attack by regular siege, and they may consequently be reduced to the minimum required to resist assault by open force, without any sufficient previous preparation by the fire of siege guns.

Here, again, we are at once met by the cry of "Remember Sebastopol, remember Plevna, no permanent works!" But what is

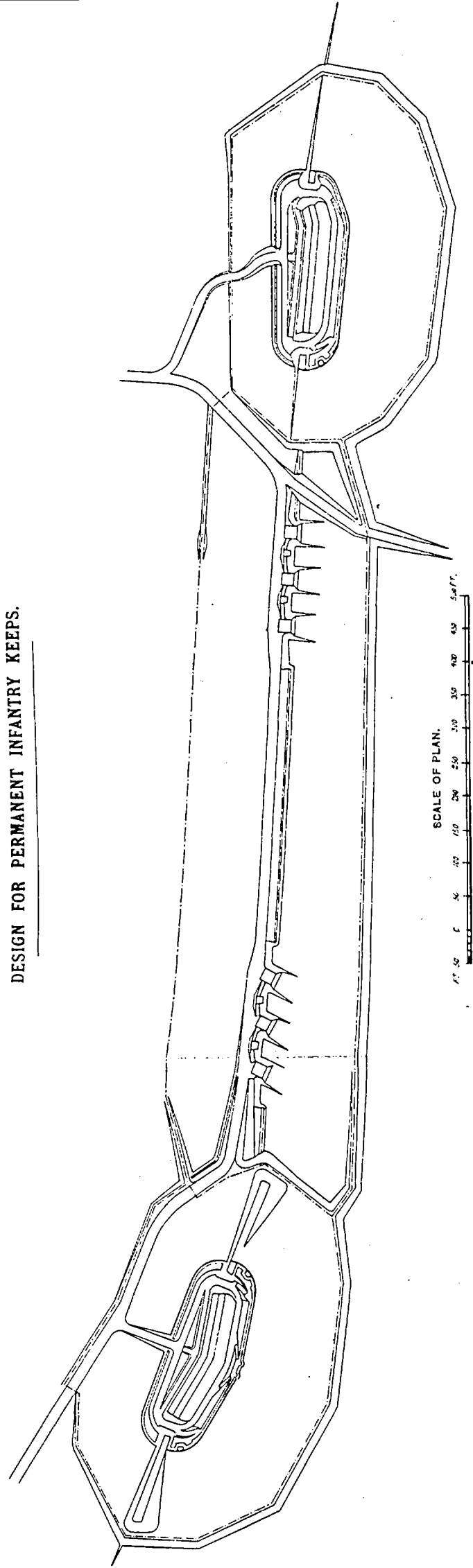
<sup>1</sup> "Hercules" experiments at Portland, November, 1885.

the real lesson to be learned from Sebastopol? Here we see a magnificent defence of a position (the word siege is a complete misnomer) carried out with the assistance of a practically continuous line of earthworks which were constructed by the defenders during the continuance of the attack, which construction was rendered possible by the possession of enormous resources in men and guns and by the genius of Todleben. These works were of very slight profile it is true, and were not technically storm free in the sense that there was no really insurmountable physical obstacle to assault, but they held out for nearly a year against a vigorous attack. Why? Because they were defended by a garrison so powerful that it was able even to take the offensive, and practically to reduce the assailants to the position of being themselves besieged in their sea-girt position—and from this we are asked to draw the conclusion that this is the best method of defence for a besieged place. Can any reasonable man doubt what a satisfaction it would have been to Todleben to have found the works at Sebastopol, such as they were, ready to his hand, rather than to have been obliged to build them under fire with enormous loss? Can anyone doubt that if it had been a real siege, and the place invested, the garrison (any possible garrison) would have been utterly incapable of bearing the enormous strain of this work in addition to their everyday duties of resisting the attack? Can anyone, in fact, maintain that it is wise policy to place upon the shoulders of the garrison of a besieged place the enormous burden of constructing the works of defence after the investment is formed, and under fire, instead of having permanent defences ready to hand, the necessary improvements and additions to which (inevitable in an active defence) will afford more than enough of work for the garrison? Sebastopol, Plevna, and many other instances, teach us that an active and bold defence may, and will, do wonders even behind the most apparently feeble works; they teach us the inutilty of constructing elaborate works *à la* Vauban; they teach us the value of simplicity of design in consequence of the extreme value under present circumstances of the development of frontal fire; they teach us, in fact, the kind of works we require, but I deny altogether that they teach us that the construction of these works should be deferred till the enemy is at the gate, or that there is any inherent disadvantage in having our bomb-proofs built of concrete instead of timber. And, mark, this is the only difference between permanent and field fortification. It is an absurd fallacy to say that because Vauban, Cormontaigne, Brialmont build or have built works of the utmost complication, and of the most elaborate and expensive detail, that we should therefore build no works at all, but should throw upon our raw garrisons the extra duty of doing so in the face of the enemy; and recollect that this is what this senseless outcry against permanent fortification practically amounts to.

Every Continental nation<sup>1</sup> is at the present moment rushing into

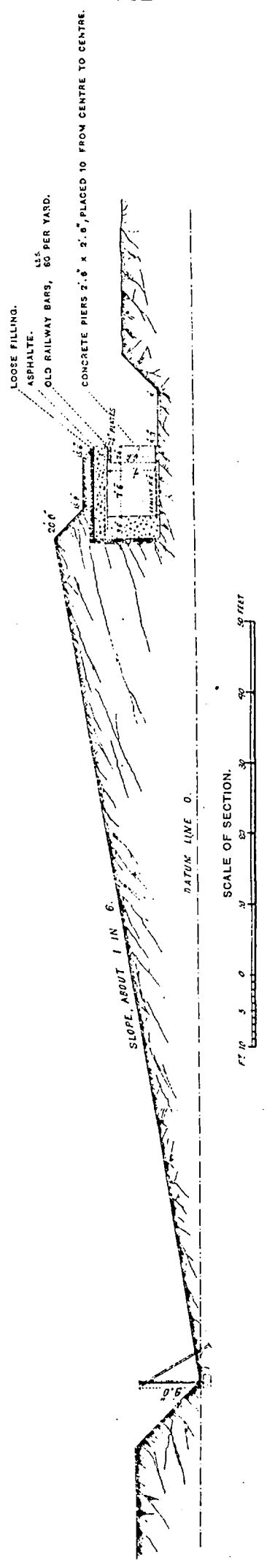
<sup>1</sup> The Belgian Government have ordered 147 turrets for Liège and Namur. The Germans 60 for Metz and Strasburg. French frontier forts also have cupolas.

DESIGN FOR PERMANENT INFANTRY KEEPS.



SCALE OF PLAN.  
Feet 50 100 150 200 250 300 350 400 450 500

SECTION THROUGH FRONT PARAPET AND DITCH.



SCALE OF SECTION.  
Feet 0 10 20 30 40 50

iron as the only possible protection of their great fortress guns against the power and accuracy of modern siege trains. Can we suppose that poor and heavily burdened States are doing this in mere recklessness, and without an absolute belief in its necessity; can we believe they are ignorant of the art of war? We in this country, trusting to our practical immunity from the danger of attack by regular siege on the land fronts of our fortresses, consider that we can do what is required of us with less expensive designs; but I say it is not wise to defer the execution of the simple proposals which are brought forward till it is too late—that the moment of accomplished invasion will be too late, there can be no doubt whatever.

In the case of the existing works we are in most cases fortunate in having them placed sufficiently far from our dockyards, they having been designed after the greatly increased range of modern artillery was at all events clearly anticipated, and the works themselves have no more than the almost necessary defects of their period. They are much too elaborate and expensive, as well as too commanding and conspicuous, and they lack that abundant provision of bombproof cover close to the parapets which is the first necessity of defence under existing conditions. They are in fact designed as artillery positions, whereas I believe it would be quite sufficient if they were simply constructed as permanent musketry keeps, leaving the artillery defence to be carried out by movable batteries in the intervals, and were of much lower command, and withdrawn if possible from the forward crest of the position to more retired sites. The defence of the forts would then be chiefly a musketry and machine-gun defence, and they would act as strong supporting pivots to stiffen the defence, and to prevent the enemy from reaping a permanent advantage from any temporary success in the intervals between them.

The great power of holding works given to steady troops by the modern rifle strongly favours this method of defence, but it must be admitted that large and efficient garrisons are required; and though this mode of fighting in a prepared position is favourable to the half-trained troops that alone could be spared for garrison duty, it should be very carefully borne in mind that this lack of training must not be allowed to fall below a certain point, and that the more the troops intended for the various garrisons are made acquainted with the ground where they will have to fight, the better will be the chance of an efficient defence.

I have shown on the board a diagram (see Plate) of a permanent work suitable for the kind of defence I have indicated. This work has been designed for a special position, and partly executed, and its simplicity and cheapness will commend it, I hope, even to the most rabid opponent of permanent traces *à la* Vauban.

A regular siege we have not, I believe, to fear, and I will therefore content myself with a simple protest against the acceptance of Vauban's siege, with Q.F. guns thrown in, presented to us by Captain Stone, as in any way representing the most recent ideas on the subject, and I venture to add that the teaching of our military schools seems to me to be largely responsible for this, as well as for the

false ideas of permanent fortifications which are, I fear, widely prevalent.

Finally, I must very briefly dismiss the important subject of organization of the personnel, which I had hoped to have treated more fully.

In spite of all the improvements in matériel, there is one factor unchanged. The most powerful ships, the heaviest guns, the most scientific devices for directing their movements and their fire, still depend for their manipulation upon human agency; the man remains the same whether armed with a bow and arrows or a repeating rifle. How will this factor be affected by the marvellous extension of the destructive power of modern appliances of war? What will be the moral effect on a fleet of the sudden destruction by torpedo or submarine mine of a battle-ship or two? What on a ship's company of the bursting of large charges of high explosives between the decks? How will the garrisons, not to speak of the civil inhabitants, of fortresses, maintain their moral tone in the presence of similar explosions? And for troops in the field the strain will not be lessened by the greatly increased efficiency of shrapnel and the use of high explosives. These considerations seem to me to point to the necessity for the highest training, the most perfect discipline, as the necessary preparation for success. For the Navy this training more or less exists. The ordinary life at sea, with its continued struggle and watchfulness against the forces of Nature, itself provides a training for war; but is it so in the land forces? Raw troops will be more and more at a disadvantage in combating with trained and disciplined men, and we depend, and must under present circumstances continue largely to depend, upon troops whom it would be affectation to describe as fully trained.

It is said that we shall fight behind works in some prepared positions; but it will be the business of the enemy to manœuvre these raw troops out of such positions, and to be content with partial efficiency on any such ground seems to be less than common sense. Then there is the necessity, already alluded to, of meeting the enemy on landing. This must be done, if successfully, with trained and fully mobile troops, and under a most carefully considered plan of campaign. We require a carefully elaborated organization, under which every man, fully equipped and fully trained, will move at once into his place on a given signal. Have we got it? If not we are practically trusting to a single line of defence, even while we loudly assert the insufficiency of that line, and this in the face of Europe in arms.

May I venture to indicate a policy in this matter? It is very simple, and not very expensive. Its cost would consist chiefly in the casting away of some old prejudices. Barrack square inspection must then give place to real field training, and the Officers of the Army must be made thoroughly professional and be more thoroughly instructed. Our present instruction is too bookish, too little practical, and I venture to think not searching enough. We hold the greatest Empire on earth because we are, or are believed to be, strong enough to maintain it as it was won, by the sword. The truest word spoken



in this controversy is, "A great Empire must be strong or perish." Let us rise to the height of this great cause, and choose, at the sacrifice of some luxury—some effeminate longings after universal peace—some distaste for the militarism of the professional soldier—to be strong, not only in ships and forts, but in the thorough organization and training of our forces for war.

John Bull is fond of boasting loudly that he is a peaceful trader, loving justice, mercy, and free trade; that he regrets the necessity for fighting, and pays other people to take that part of the duty of citizenship off his conscience. The rude way in which these mercenaries swagger round the world is painful to his finer feelings, but still he is very generous, and grudges no expenditure in supplying them with the very best of everything required for their calling; it is simply ask and have. One smiles rather sadly at every repetition of this well-worn boast; for at the best it is hardly a very noble sentiment, and besides it is not quite true, as those who have to ask this very generous person for money know too well. He is inclined to pay neither in person nor in purse; if this great Empire is not to perish, he must do both.

The CHAIRMAN: I have now to invite you to discuss this subject, which has been placed before us in a very able manner by Major Walker, and in doing so I must remind members of the rule which confines speeches to ten minutes. It is especially necessary on this occasion that some mercy should be shown to the audience, as, no doubt, many Officers will wish to address us. I have now great pleasure in calling upon Admiral Colomb to speak, as I know he has come here prepared to do so.

Admiral COLOMB: My Lord, ladies, and gentlemen, I have no wish to compare Major Walker to Goliath of Gath, still less have I, I am sure, any wish to compare the present audience to the hosts of the Philistines, yet I cannot help feeling a little like David on the present occasion, more especially as Saul over the way, at the Board of Admiralty, has not provided me with the official armour which my gallant friend has enveloped himself or his case in. But, gentlemen, I have been down to the brook, and I have got, I think, five smooth stones, which, if time permitted, I might endeavour to sling. But I am in this difficulty, my lord. You have rightly drawn our attention to the ten minutes rule. I am quite sure that those who listened first to Captain Stone's paper, then to mine, and now to the very able paper we have had to-day, must be well aware that what they are discussing are the fundamental principles of the defence of this Empire. We are spending 34 millions ostensibly on defence, and whether we are rightly or wrongly spending it appears to me to depend upon whether we get the right or the wrong answers to the paper which has been read to-day. The expenditure of the Army and Navy are interdependent, but the discussion which has hitherto taken place over this question shows no principle existing between the Army and the Navy, in the matter of defence. Both Services work independently. The Navy, as we well know, officially declines to have anything to do with defence: it says that is the War Office business, and the Army accepts that position, and goes to work to defend on the principle that the Navy is either always away, or always helpless under its shelter. The case seems to me worse since the reading of this paper, because what it has disclosed, coming from the source it does, is that the operations of naval war are not well understood by those who are preparing to defend the country against them. The language that I have been using of late, and especially the language that I used in my last paper, is not understood: it is paraphrased and altered without those who paraphrase and alter being aware of what they are doing. That is present in a very remarkable degree in this paper. I have to thank the lecturer for the paper—I am delighted that it should have been

read. I should welcome more papers of this character, because I think that we are not to the bottom of the question by a very long way, and I have to compliment him on his vigour and earnestness in the composition of the paper. I have to thank him most sincerely also for admitting the great principle that our appeal must be to history, or, as Professor Laughton has better put it, "to experience." There is no way that we can get to the bottom of any of these questions, except by the experience of the past. And I have to thank the lecturer also for what I consider a very marked and clear attempt to get on to my ground; yet so difficult has he found it to understand what that ground is, that he has most freely both misstated and misquoted. His six postulates, as he puts them, are far from any of my expressions, and my trouble is this, that until I have in some degree corrected the misstatements and the misquotations, I find it would be very difficult for us to proceed to a general discussion. And then there is another point. I feel that it is exceedingly necessary for us to guard ourselves in the language we use, and to keep in the icy atmosphere of scientific discussion. There are one or two expressions, if I may be allowed to say so, in the paper which has been read, which might if pursued tend to get us away out of that icy atmosphere. And I want to say this, that from my side, and as far as I understand what the discussion ought to be, it certainly is not Navy against Army, nor has it anything to do with any question of collision between the two Services. I am able to say that myself, because I have received encouragement from many military Officers, and from a few whose names even I did not know, and some whom I had not spoken to previously to the reading of my last paper, have said to me, "Do not you let it be said that you are in any way attacking the Army. We see quite well that it is not so. We see quite well what you are driving at. We see that the great question is as to the right division of labour between the two Services, and there is no question of any sort of rivalry." My position is, that I have such a feeling for the Army, so strong a sentiment with regard to it, that, as far as I can measure my own thoughts, the prevailing impetus which has driven me to this position is a brother's feeling for the army of Marlborough, of Wellington, of Lord Raglan, Lord Clyde, and that magnificent fellow Outram, of whom I never can think except as side by side with Nelson, and your own army, my Lord, in Egypt. Now I cannot bear the thought of a thing which seems to me likely to take place if men feeling and thinking as I do, do not come more to the front and state as far as they can what the position is. I greatly fear the shutting up of this magnificent Army all over the world in useless garrisons—garrisons which, if we are not guarded, may be unnecessarily large. I do not say whether they are or are not necessary, but I do say that they may be, if we do not take care, unnecessarily large, and that the Army may be greatly hampered by the shutting up of an enormous force inside fortresses. And now, my Lord, upon that I must express much regret that you did not see your way to take the chair at both sides of the discussion. I was very anxious that a military Officer should preside, and I am very much obliged to Sir Frederick Stephenson for presiding at my lecture, because that tended to keep us in the icy atmosphere, to prevent any question arising between the Army and Navy, and to keep us to the purely scientific question of the division of labour between the two Services. Now you see the position I am in. I am in the hands of yourself and the meeting; but to answer the paper will take time, and I do not see that the general discussion can go on until I answer categorically, at any rate so far as the misstatements and misquotations are concerned. But I have written the reply, and I thought it might be a possible way out of it if the discussion could be adjourned and these replies could be printed and circulated previous to the full discussion. However, of course I am quite willing to go on. I am in the hands of the meeting altogether. I can now just make the one or two general observations, and prepare myself to ask the Council's permission to read a paper fully dealing with that before us.

The CHAIRMAN: My own view would be to exactly follow out what Admiral Colomb has proposed, that is, that he should now continue the interesting speech which he has begun, and leave the question of printing any larger paper that he may have to the discretion of the Council.

The question was then put, and it was agreed that Admiral Colomb should continue the summary of his written replies. These will be found in full below.

General Sir LOTHIAN NICHOLSON: It appears to me, my Lord, that we have heard what I may call a second paper, and it is hardly fair to those gentlemen who want to join in the discussion that they should be called upon not only to answer Major Walker, but to take up the cudgels also with Admiral Colomb. Therefore I should propose, with all due deference to the Council, that the replies (or paper) which Admiral Colomb has been kind enough to read in answer to Major Walker should be printed and circulated in due course, so that the members who have done us the honour of being present to-day can have an opportunity of discussing the two together. I think that would be a simpler method of doing it, because to answer it now the poor man will be confused between Major Walker and Admiral Colomb, and he will not know which is which, and all the re-explanations which Admiral Colomb has been kind enough to give us, and which I confess have puzzled me rather more than I was before, will be still more puzzling to answer. I think that, my Lord, is the only way out of the difficulty.

Colonel BRACKENBURY having seconded the proposal, which was agreed to, the meeting was then adjourned to May 9th.

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CATEGORICAL REPLIES TO MAJOR WALKER'S PAPER: "ON FORTIFICATION AND FLEETS." BY REAR-ADMIRAL P. H. COLOMB.

*Extracts.*

"England is the only civilized country where at the present time it is possible to stand up and to deny, with any chance of acceptance, the utility of permanent fortification."

"The average Englishman looks with suspicion on fortifications."

*Replies.*

I. I do not myself deny, and I never met any one who did deny, the utility of permanent fortification.

II. An article in the *Avenir Militaire* of the 12th April, signed by a General Officer, says that in the defence of the French coasts by fortification they are alternately swayed by two totally opposite currents of idea. Sometimes they endeavour to fully protect every place liable to attack or simply accessible; sometimes—frightened at this dispersion of resources, forts and batteries are sacrificed in order to take them to pieces and reconstruct them, to the great detriment of their finances.

This Officer thinks the French will be right to abandon all the batteries intended for the defence of open roadsteads, and says that the attempt to be everywhere strong will end by leaving them everywhere weak.

III. From an American source I learn that criticism has arisen from the fact that the Board of Fortification has proposed an expenditure of 11,000,000*l.* on fixed defences without any provision for the garrisons.

I. The average Englishman voted 11,000,000*l.* for fortifications in 1860, and 3,000,000*l.*, 1887.

II. The whole of the great commercial ports have recently joined to urge the Government to erect fortifications—rejecting with contumely the Govern-

*Extracts.**Replies.*

ment counter-proposal to introduce local naval defences to keep the ports open.

III. All the early part of last year and the whole of 1887, the provincial press teemed with articles demanding fortifications, and condemning my views whenever they got them—which was constantly.

IV. The whole demand for the coal-ing stations is fortification—not a word is said for keeping those ports open.

V. The U.S. Journal in the first thirty volumes contains forty-three papers referring our defence almost exclusively to fortifications. Not a single paper referring it exclusively to naval means, and only two or three admitting the Navy to a share.

VI. It is perfectly well known that for some years back the Admiralty has systematically refused to concern itself with any defence of territory, and it is allowing, at this moment, all our great commercial ports to be prepared for the closure by submarine mines.

I. In my paper I said: "The importance of the question I raised, and the difficulty in dealing with it, spring from the fact that, *prima facie*, no one denies the value, if not the necessity, of a certain amount of local defence for the ports of a maritime Empire. But then no one knows where to stop."

II. I had, therefore, nothing to withdraw from. I pointed out in my reply that I had no idea of leaving any port absolutely defenceless. Meaning clearly that it was naval defence which was first required.

As Sir John Colomb said twenty-two years ago: "Our object should be, to ensure the safety of those ports in our possession, and to afford protection, *not only to them, but to as great an area as possible around them.*" "Protection of our Commerce," p. 17.

I. This is a misquotation and, therefore, a misunderstanding of the language.

I was making a statement, and appealing to nothing, I said there were three periods only when there was a demand for fortifications—the Martello Tower time, 1860, and now. "At all other times," I said, "Britannia *needed* (not 'needs') no bulwarks," &c. I meant, of course, that this was Britannia's opinion. I said nothing about mine.

"Admiral Colomb, as I understand him, withdrew so far from the position . . . as to admit the usefulness of fortification within certain limits—only to object to its employment on a large scale."

"Admiral Colomb, appealing to prejudice by the platitude, 'Britannia needs no bulwarks,'" &c.

*Extracts.*

"He asserts that there is . . . no fear of any territorial attack, not only on the shores of these Islands, but even on any part of the Empire."

Quoting "Times" of August 30th, 1887.—"Ten or twelve guns can be mounted, even in War Office cupolas, for less than the cost of a single iron-clad."

Quoting me in "Manchester Courier," on destruction of our trade by enemies' cruisers, says: "Where were our superior fleets? Why was there not a superior force present on every occasion to save these British ships?"

"Every important base and every naval arsenal, if left undefended by fortification, will have to be watched and defended by ships told off for the purpose and chained to the port."

"Admiral Colomb's assumption that such cruisers would not attack undefended ports for fear of interruption, is altogether untenable."

"Naval history may answer, 'No,' but what would be said by his superiors to a naval Officer in command of a powerful modern cruiser . . . who should refuse," &c.

*Replies.*

I have never said any such thing. I have always held that we are running the greatest risks. My fear is that belief in fortifications might blind us to the risks.

I. As used, this is a misstatement of the fact. Ten or twelve guns mounted in cupolas would have no effect in keeping the Thames open, which is the work which has to be done, and might be done by a single ironclad.

Commerce is not directly protected by "fleets" unless they are used in convoy. Fleets have nothing to do with the case in point. Fleets are compact bodies to operate against similar compact bodies. Commerce must be attacked by scattered cruisers, and, if no convoy, defended in the same way.

My fear is, that the money which should go on cruisers might go on earth, stone, and iron walls.

Certainly, whether or no. Such ships are absolutely necessary to keep the port open, whether there are fortifications or not.

The Germans sent out the only cruiser they had in 1870. She captured French ships off the Gironde, and nothing but naval force on the spot could have prevented her.

Where have I assumed any such thing?

I have said I thought that five battle-ships would not. I have always held that cruisers might, if there were nothing afloat on the spot to stop them.

Naval history hardly answers "No" as to single ships and light attacks.

It only says distinctly "No" as to the organized attacks by fleets. But it must be said that, while its answer is positively "No" in respect of the organized attacks by fleets, it is not so positively "Yes" in the case of cruisers belonging to the inferior naval Power which does not pretend to the command of the sea. And even in the former case the light raids are made, not on the port, but on the shipping supposed to be protected by the fortifications of the port.

Thus Cushing makes his way by night in a steam-launch up a river to Plymouth, and torpedoes the "Albemarle," lying alongside a wharf.

Yelverton, with "Arrogant" and "Hecla," penetrates seven miles up a creek to carry off ships supposed to be

*Extracts.*

" . . . The common-sense of our rulers who have fortified Plymouth."

"If reasons have been given for refusing to believe that even the most powerful fleet in the world can ever keep the coasts of the home islands entirely free from the enemy, how much more will it be possible to protect every depôt and dockyard throughout the world?"

"Sir Phipps Hornby and Sir John Hay both show that even when present programme is complete, we shall still be very far from strong enough at sea."

"Is this an encouraging time to ask us to put all our eggs into one basket, the Navy?"

"But since it is admitted that until the Fleet is perfect, and indeed after it is perfect, there will always be a possibility of some of the enemy's ships breaking loose and escaping the blockading squadron of the superior Power, it follows that these ships, which may be of most powerful types, and may be found in any sea, can only be prevented from making disastrous raids on dockyards or commercial ports by the maintenance of efficient fortifications kept up to date defensively, and armed with effective guns."

*Replies.*

protected by the fortifications of Eckenness.

On the other hand, Lyons, in the "Miranda," proceeds thirty miles up a river to the fortified town of Kola (White Sea), with the purpose of demanding its surrender; and he burns the place. But in all these cases the sea was commanded behind the attacking force.

The lecturer is wholly out of it in confusing the operations of a cruiser and a fleet.

Is Plymouth fortified against a cruiser?

If so, the method is rather expensive.

What reasons?

Reasons may have been given to show that light attacks will be made if not provided against by light defence on the spot.

But considering that the mere threat of an opposing fleet has kept our shores inviolate from heavy attacks for 300 years certain, it seems a large order to doubt its efficacy now, even with the abortive attempt on Bantry in full view.

Quite so.

But we dropped from our sea strength 1,600,000*l.* in the years 1887 and 1888, and we put on to our fort strength at the same time 3,000,000*l.*, and all that is to be dragged after it in the way of ammunition, garrisons, and supplies.

The only question arising is whether this was a wise proceeding. But no answer is given.

The object of my paper was to elicit such an answer.

I am not aware that I have made the request.

But I have asked to be shown the exact value of putting the eggs into the fortification basket. And I pause still for a reply.

The very first thing we should have to do on the outbreak of war would be (1) to watch the enemy, wherever we knew him to be, with at least equal force.

(2.) To concentrate remaining force at the points where our shipping congregates. And I say this, having been Chief of the Staff to the Commander-in-Chief in China when we were actually contemplating war.

In the first instance, there would be nothing else to do.

We should be bound to assemble at ports of call and coaling stations, and we

## Extracts.

## Replies.

"The crucial test of the truth of this proposition is stated by Admiral Colomb to be the conduct of the French Baltic fleet during the Franco-German War."

should not more thence except on intelligence of an unwatched enemy.

How can it be said that the *only* way of preventing disastrous raids on dock-yards and commercial ports is by fortification?

The inferior naval Power does not usually attack territory.

None of the Confederate cruisers ever attempted a raid on any port.

Even the "Huascar" confined her work to attacking the ships of the Chilians. She never, I believe, even bombarded a place. That was all done by the superior naval Power—Chili.

I made it no "crucial" test. I merely said the conduct of the French in the Baltic followed the clear rule of naval war.

A low opinion of my intelligence must have been formed if it is supposed I could have put such a statement of fact forward without full warrant.

My authority is René de Pont-Jest, who wrote in the *Moniteur Universel de Tours*, in November and December, 1870, clearly under the inspiration of Count Bouët-Willaumez himself. The writer describes himself as: "... envoyé officiellement auprès du Vice-Amiral Bouët pour suivre les opérations maritimes." He describes how a council of war was held on the 12th of August, and a decision came to thereupon to bombard the fortified town of Colberg on the Prussian coast, which was one of the few places accessible to an ironclad fleet without necessary appliances for an attack on territory. Then he says—Bouët's fleet being in Kiøge Bay: "Il restait donc Colberg, et le Vice-Amiral Bouët se préparait à quelque démonstration sérieuse contre cette ville, lorsqu'il reçut le 13 Août, dans la nuit, une dépêche qui lui annonçait que la flotte Prussienne était sortie de la Jade et remontait la côte du Jutland pour pénétrer dans la Baltique." Then he says: "En présence de cette éventualité, le Commandant-en-chef de l'escadre n'hésita pas un instant; il rassembla à la hâte ses bâtiments et se dirigea vers le Grand-Belt pour s'opposer au passage des vaisseaux ennemis et leur offrir le combat."

De Pont-Jest then goes on to show that this turned out to be a false alarm, for that Admiral Fourichon was watch-

*Extracts.*

"In 1854 the combined English and French Baltic Fleets amounted to 18 ships of the line and 9 steamers. . . . The Admirals proceeded to attack the Aland Islands," &c.

*Replies.*

ing the Prussians with seven ironclads. After a pause the idea of bombarding Colberg was again taken up, and the fleet got as far as Arkona, anchoring there overnight, and intending to proceed to bombardment next day. Here they suffered much from a sudden gale of wind, and were in fear for the safety of the ships, especially the "Rochambeau." Then, says the writer: "La machine tint bon, heureusement, et le 'Rochambeau' parvint à rallier l'escadre, qui se dirigea sous Kioge-Baie. Colberg, une fois de plus, a été sauvé, car à peine au mouillage, le Vice-Amiral Bouët fut informé que l'escadre du nord était entrée à Cherbourg, que la Jade était débloquée, et que très-probablement la flotte Prussienne en profiterait pour pénétrer dans la Baltique, afin de l'y surprendre."

This is the most astonishing misstatement of fact. I will take the English Fleet alone. This consisted of at least—

(1.) 18 sail of the line, of which at least 12 were steamships.

(2.) 5 steam frigates.

(3.) 14 steam corvettes.

(4.) 4 steam sloops.

Ships employed at Bomarsund (English) were about—

3 steam line-of-battle ships.

2 steam frigates.

4 steam corvettes, and other steamers, leaving at least 10 steam sail of the line, 3 steam frigates, and 10 steam corvettes to watch a Russian Fleet which had not a single steam line-of-battle ship in its ranks, and only some nine small steamers all told.

But the wonderful infelicity of producing such a case can be readily seen on even a hasty perusal of Earp's "Campaign in the Baltic." It is there shown that notwithstanding the real impossibility of a sailing fleet of line-of-battle ships threatening the most numerically inferior group of steam line-of-battle ships, and notwithstanding the fact that Sir Charles Napier was informed by his Admiral in the Gulf of Finland, at the head of five steam and four sailing line-of-battle ships, that the westerly wind must prevent any move on the part of the Russians, yet he expressed himself to the French as seriously discomposed at the idea of their withdrawal from the second



*Extracts.*

"Take now the case of Gibraltar, as  
"stated in Admiral Colomb's paper."

"Then there is the French invasion  
"of Egypt in the face of the hourly fear  
"of interruption by a fleet, which  
"events proved was quite able to hold  
"the command of the sea."

"If Count Bouët's action in the  
"Baltic in 1870-71 was paralyzed by  
"the inferior Prussian Fleet at Wil-  
"helmshaven, what was the use to him  
"of his command of the Baltic Sea?"

"A fortified base confers no advan-  
"tage upon a fleet."

"It does not give freedom of offen-  
"sive action . . . because the port  
"not only requires to be locally pro-  
"tected, but also to have its communi-  
"cations kept open, and as the land  
"defences cannot admittedly do this,  
"they are utterly useless, and the fleet  
"is just as much bound to the port as  
"if there were no land defences."

"What we have admittedly to fear is  
"the breaking away of one or more of

*Replies.*

covering force which he had apparently  
assembled at Ledsund.

My own words were, "We may indeed  
say that but for her fortifications  
Gibraltar would not now be in our  
possession."

Why slay the slain?

This is a wonderful misstatement of  
the facts of history. (1.) Nelson  
entered the Mediterranean with only  
three sail-of-the-line, two frigates, and  
a sloop on the 8th May, 1793.

We had then no other force in the  
Mediterranean, and the rest of our  
Fleet was tied up watching the Spanish  
in Cadiz.

Napoleon was ready to sail, and never  
knew even of these six ships, he had  
seventy-two war-ships himself, and he  
sailed from Toulon eleven days after  
Nelson entered the Mediterranean, but  
before Nelson had ever come in sight of  
Toulon.

Nevertheless, so tremendous was the  
risk, that on the 22nd of June, at night,  
Nelson, then off Cape Passaro, actually  
saw two ships of Napoleon's Fleet, and  
if this seeing had only happened an  
hour or two earlier, Nelson would have  
perhaps captured or broken up the  
whole expedition of nearly 600 sail.

He had not got the command of the  
Baltic Sea unless the Prussian Fleet  
was masked. The unmasking of the  
Prussian Fleet took away from him the  
command of the sea which was neces-  
sary to permit him to make territorial  
attacks.

I have never said this. On the  
contrary, I showed how Brest and  
Toulon always gave safety to the French  
fleets.

The mistake is in supposing that a  
fleet can be ready for offensive opera-  
tions and afraid to leave an unfortified  
base at the same time.

The thing is impossible. If the fleet  
is strong enough for operating against  
the enemy's territory, the fact is suffi-  
cient to guarantee the safety of the  
port it leaves behind.

But this fact will not suffice to keep  
the port open, because the closing is  
work which only requires light ships,  
and therefore light ships must be pre-  
pared at the port in answer.

There is no reason to particularly  
apprehend the attack on undefended

*Extracts.*

"the enemy's powerful cruisers, who, if  
 "there is any important port left un-  
 "defended, will certainly make a raid  
 "upon it . . ."

" . . . or else a temporary loss  
 "of command of the adjoining sea by  
 "some naval disaster; in either case  
 "the port attacked will necessarily be  
 "closed while the enemy is in the vic-  
 "inity . . ."

*Replies.*

ports. These cruisers would attack shipping in preference, as much more profitable to them and injurious to us. And the ships escaped would have to be followed up, no matter what they were going to do.

This appears to be the nearest approach to getting on my ground.

I suppose it is meant that if the naval force stationed to keep a port open is attacked by a superior force and has fortifications to retire behind, it will be in a better position than if it had not.

According to the nature of the port and its geographical conditions this would be so, and any ports fortified on this principle would, I think, be reasonably fortified, provided the naval force is not stinted for the purpose.

Whether the port itself will remain uninjured is no doubt another question. If the enemy's naval force is superior in attack, it won't. The question will still remain just the same as ever, whether, seeing that the naval force is sufficiently strong will both protect the port and keep it open, and that the fortifications will in no case keep the port open, and may not be strong enough to prevent attack, it will not be better to increase the naval force and decrease the fortifications? This is a point open for careful consideration before money is spent either way.

Geographical conditions would probably govern; but a decision come to after so considering matters would be entirely what I would wish.

The whole question is confined to small ports and light attacks and defences.

If the attacks were heavy and required preparation and time, then the principle of the flanking fleet comes in.

But it is certain that it takes a good deal of fortification to stop a light attack by an enemy which has command of the sea. Witness the "Hecla" and "Arrogant" some 7 miles up a river at Eckness, in the Baltic, in 1854, and the "Miranda," at Kola, 30 miles up a river in the White Sea, as already mentioned.

I should say the question—the general question—in all such cases as this, is the mode of procedure in arranging the defence. I should say: First, the naval force necessary to keep the

*Extracts.*

"Suppose an enemy's fleet shut up in Brest succeeded in forcing the blockade with even one or two powerful swift cruisers. . . . What then would happen? Why the blockading fleet must inevitably return with all speed to protect its threatened home ports, thus releasing the bulk of the enemy's concentrated fleet for any mischief they can compass, while if those ports are secured by efficient local defences, they may be left in safety to their own resources; and the escaped cruisers to the tender mercies of the cruisers of the superior naval Power."

"Imagine a blockade of Toulon with an unfortified Malta. What happens? We must, as is admitted, presume the possibility of the escape, at all events, of a part of the blockaded fleet; anxiety for the fate of his base at Malta, left to the mercy of an unknown force of escaped vessels, will undoubtedly raise the blockade."

*Replies.*

port open; secondly, the garrison proper to provide against a *coup de main*; thirdly, the fortifications which may be proper to strengthen the hands of the garrison, and support the naval force in case of superior attack.

Where I suppose we are wrong, is in using a different procedure and saying, 1st, the fortifications; 2nd, to assume no naval defence; and 3rd, to let the garrison come nobody knows where from. I have never seen anything but what assures me that we now go to work in this latter way.

This also seems an honest attempt to get on to my ground. But there is terrible confusion of thought and idea, generated, I think, in part by not understanding that when Admiral Baird raised the blockade of Berchaven because some ships had escaped, he feared not an attack on his base—Milford Haven—but a superior force attacking Admiral Rowley's fleet.

Blockading battle ships do not raise the blockade of battle ships because cruisers have escaped. You might as well break up the camp of an army corps to intercept a squadron of cavalry.

The cruisers that you must station to keep your ports open would protect them from cruisers' attack.

And this the lecturer himself declares in the last sentence.

No one that I know of wants to unfortify Malta—but a great many think that enormous sums are wasted on Malta fortifications from not understanding the conditions of naval war.

If Toulon were blockaded, there must be naval force left at Malta to keep it open, else it may be blockaded by the light forces of the enemy. Therefore, whether fortified or not it would not be open to light attacks.

If the Admiral off Toulon finds that heavy ships are escaping, his fear could not be Malta, even if Malta were only lightly fortified—it would hardly be Malta if Malta were not fortified at all. In the first case he would know the enemy would not attack Malta for fear of being caught by a detachment of his ships. In the second, heavy ships would not be sent.

What he would fear would be some combination to attack some other British Fleet—that off Brest perhaps.

*Extracts.*

Speaking of the supposed advantage which the superior naval Power has of refitting under fortifications, which I have shown that history does not claim, he goes on: "This is, in fact, one of those points where a failure to bring promptly to notice the altered conditions of naval war vitiates the entire argument."

My expression "attack from the sea."  
 "I understand Admiral Colomb has explained this away by saying he meant by attack from the sea, an attack by troops landed from ships, as, for instance, at Sebastopol."

*Replies.*

He might very likely detach a force to Gibraltar with orders, if the enemy had passed, to follow him up and to reinforce the Brest Squadron.

If Malta were unfortified and the Admiral found light ships escaping, he would very likely secure Malta by sending some light ships to reinforce those already keeping Malta open. But he would be much more afraid that the ships escaped were after commerce.

If his fleet were properly prepared for modern blockading operations he would know what vessels had escaped.

This is not very wisely said. Bouët-Willamez, in the Baltic, had his open bases at the Great Belt, and at Kiøge Bay, following the old practice exactly. He was aware of the dangers of raids and was somewhat inconvenienced by the necessity of having a guard ship when he was so short, but that was all. And Bouët had no sort of proper force for blockading.

It is well known, as I said in my paper, that one of the reasons why Port Hamilton was abandoned was because for the blockade of Vladivostock it was too far off, and it was preferred to have an undefended base nearer. Malta would be too far off to be the base of the blockading fleet off Toulon, though for repairs and docking it would be used.

I have never explained the words away, for they were carefully chosen words, long used by me, and still used to express the same idea.

I have explained only that the words meant what they said, and could not be supposed to mean something else.

I have not said that they meant "an attack by troops landed from ships." If I had meant that, I would have said it. But I have said that the words were chosen in order to cover the invasion of the Crimea.

The words mean what they express exactly, namely: every form of attack which can be made from the sea with the object of reducing the place: and they cannot be narrowed.

But even then my words are misquoted. I am made to say "Fortresses have never successfully resisted an attack from the sea."

I spoke of the experience of steam wars, and said, that in steam wars

*Extracts.*

"The most hazardous statement made by Admiral Colomb is that contained in his letter to the 'Times' of 11th March, in which he endeavoured to prove the superior durability of ships to forts, with a view to showing the absurdity of spending money on the latter."

"The ships built, beside the Martello towers (before Waterloo) lent themselves to the discoveries of science," &c.

"The fortifications of 1850-60, &c., are now things of the past."

*Replies.*

"They (fortifications) have never stood a determined attack from the sea; they have never given, or restored the command of the sea; but they have sheltered beaten and inferior fleets, small and large, just as they did in times gone by."

What I should have liked to have had is, cases in steam wars that I may have missed, where determined attacks from the sea left the attacked place intact when peace came.

I had in my mind the fall of Sebastopol, and the astonishing power of the attack from the sea, shown in the American Civil War.

I did not care to press the conclusion too far, but it certainly seemed, and seems, to me that there were no parallels for these things in sailing naval war, and that steam seemed to have wonderfully facilitated the attack from the sea on fortified places.

I did not endeavour to prove the superior durability of ships to forts; I had no view of showing the absurdity of spending money on the latter—both of which things are plain on the face of the letter.

And the lecturer has interpolated two words—"before Waterloo," when ostensibly quoting me, which I did not use.

Lord Randolph Churchill had written a letter to the "Times" opposing the naval programme, and declaring that the ships would be obsolete immediately, and instanced the case of fortifications to prove it.

I wished to meet this argument by showing that ships did not really grow obsolete as rapidly as he claimed. It was Lord Randolph, not I, who made fortifications the standard of comparison.

I was thinking of the "Hastings" 74, designed and laid down in 1819, the ship I served in in the Baltic; and of the "Russell" 74, laid down in 1815, our "Chummy Ship" as the blue-jackets called her. Both of these were then steamers.

But the words "before Waterloo" are not mine, for my impression was, and is, the building of Martello towers was continued long after 1815. In this I may be wrong.

I have no knowledge of fortification—I have made no study of it, and do not

*Extracts.*

"It will no doubt be most advantageous, as has been recently pointed out by a distinguished naval Officer, to have ports secured by coast defences, into which ships" (trading ships) "can run if pursued, where they can assemble in security, waiting convoys," &c.

"If, then, Admiral Colomb's conclusions are wrong, wherein lies the fallacy of his argument? It is, I think, two-fold; in the first place, the command of the sea claimed for the superior Power is an absolute command at all times and in every place, no possibility of weakness or failure is admitted."

*Replies.*

presume to express an opinion on so technical a matter.

Captain Stone had read a paper devoted to proving—as I understood—that the fortifications of 1859-60 were obsolete, and I gathered that to be the view of the large military audience which listened. So I was not surprised to hear Captain Stone, at the reading of my paper, sum up his views by saying that these fortifications were "things of the past," and I was not surprised that the lecturer, who spoke after him, did not at once contradict him.

I know nothing of these things, and did not myself assert anything but what was said. I put the words "things of the past" in inverted commas to show that they were not mine.

On a military subject I bow entirely to military statements, but I cannot correct them if they are wrong.

How are ships to run into a blockaded port which, by the hypothesis, is the condition?

If the fortifications of the port are in operation, there must be an enemy present and that enemy will blockade the port.

What good was Fort Fisher to the blockade-runner captured or run ashore before she got to it?

Fort Fisher prevented the Federals from possessing themselves of the port for some time, but it did not help the trader to run the gauntlet of the Federal ships.

The traders to Charleston would have thought it very odd policy if the Confederates, having the power to drive the Federal ships off, preferred to leave the Federal ships blockading, and to prevent them, by fortifications, from doing more than blockade.

My conclusions are only those of naval history; that is, as is so well put by Mr. Laughton, of naval "experience." The lecturer has only challenged one of my statements on this head—the experience of Bouët-Willamez. I presume he is now sorry he did so.

The argument that the superior Power is to have, or can have, "an absolute command at all times and in every place" is not the experience of history, and would contradict the facts set out in my paper. It, therefore, cannot be mine.

*Extracts.**Replies.*

My conclusions, as I understand them, go no further than to say that on these questions of the defence of the Empire we should still think as our forefathers thought, and that those who spoke, wrote, and acted amidst the realities of naval war, are much better guides to follow than those who clearly show that they have made no study whatever of naval war, who distinctly avow that the whole thing is so altered—yet without showing how and why it is altered—that we must defend ourselves by guess and imagination and not by the light of experience.

I have no conclusions apart from experience, and in my paper, any conclusion of my own put forward, is done in a tentative way, supposing that while the facts I have collected all point in the direction indicated, there may be others which I miss, showing the reverse.

Not a single such fact has as yet been presented to me from any quarter, only a great store of fact supporting my tentative views.

I am trusting to other debaters to bring out fully the language of those I follow, and especially to compare the language of the Royal Commission of 1786 respecting the then proposal to fortify Portsmouth and Plymouth, with that of the Commission of 1859 on the same subject.

It is a pity that my words should be continuously altered and paraphrased. I must say over and over again that they are carefully chosen and will not bear to have their sense changed.

My real words are, "We seem to be met by the conviction that fortifications can only represent delay."

I have not the least idea of dogmatising on the point, though I necessarily approach dogma when I find no facts brought forward on the other side.

What about the defence of London?

What then is being done with the 3,000,000*l.* borrowed last year?

Are we sure that it is not mistaken ideas on the question of defence which produce the anomaly of the greatest Navy in the world costing only 14,000,000*l.* a year, while a numerically small army costs 20,000,000*l.*? Fortifications *alone* may be cheap, but I doubt if any of us know what money they draw after them.

"What, then, is the rôle of fortification? It is only delay, says the gallant Admiral, and this, in a general sense, we may accept."

"There is no enormous expenditure taking place, there are no gigantic works being erected."

*Extracts.*

"It will, I believe, be found that the naval opinion in cases of difference was generally in favour of more extensive defences than those undertaken, which were watered down to suit the extravagant soldiers."

*Replies.*

I think this is most probably true. It is only quite recently that naval men have begun to study the experience of the past in order to draw present lessons. And they have not been aware that all the great men who made this Empire took the views that I take now.

It would not have been possible, for instance, for the naval men who were on the Royal Commission of 1859 to have signed the Report, if they had had the Report of the Royal Commission of 1786 before them.

They could not have agreed to report on the basis of an insufficient fleet at home. But, the Report having been made and accepted, the naval official position has been that noticed by Sir Arthur Hood in the Fourth Report on the Navy Estimates, 1888.

He was asked whether before the Estimates were framed, "there was laid before the Board of Admiralty, by any expert, a complete scheme, showing what were the requirements of the country so far as the Navy was concerned?" And he answered, "No, I have never known such a scheme to be ever laid before a Board of Admiralty." (Q. 4167.)

This would have been considered a strange answer half a century ago, but we have been used to think it not strange because of the general acceptance of the idea put forward for the first time by the Royal Commission of 1859, which is that you must fortify on the understanding that there is no naval force.

From this it was but a deduction to think that defence was a War Office business depending on forts and garrisons, and which the Navy was to shake itself clear of.

And the Navy has never thought that the cost of fortifications and garrisons came ultimately off its own back in a sort of compound interest.

Say that forts and garrisons were established because the Navy was considered unequal to the task of defence. Some of the money to establish them was taken off the already weak Navy. The Navy thus further weakened enhanced the necessity of more forts and garrisons, and some of the money was again taken off the Naval Vote;—and so it is possible to go on in a continually vicious kind of argument till we either overburden the country with expense, or leave her in a dangerous situation.



*Extracts.*

"It has been pointed out that a maritime frontier is in its nature pierced by well-defined passes, and impassable at other points—the mountain passes being represented by the harbours, estuaries, or beaches along the coast suitable for the disembarkation of troops."

*Replies.*

It is obviously impossible to settle the naval requirements unless we first settle what our existing sea-faced forts and garrisons are going to do for us.

If the views we now hold are right—I mean if the views opposed to mine are right—then we may want more forts and garrisons, and less Navy.

If the great men whom I wholly follow were right when they lived, and laid down principles that are right now, then we may want less works and garrisons, and more Navy.

But it is clear we ought to settle it either way before we begin to spend the money.

I have never heard this simile used, and I should be glad to know who used it, for it seems to me a strange one.

But it has a curious family likeness to one I have often publicly used, namely, that the *enemy's coast as a maritime frontier* is like a mountain frontier, and his war ports like the passes out of which his forces issue.

## Adjourned Discussion.

Thursday, May 9, 1889.

GENERAL G. ERSKINE, Chairman of the Council, in the Chair.

The CHAIRMAN: I am sorry to have to inform you that it was impossible for the Adjutant-General of the Forces, who presided at the reading of Major Walker's paper on Wednesday of last week, to take the chair again to-day. He has some important duties which prevent him from being here. In his absence the duty of taking the chair has devolved upon me. We are now about to resume the discussion on the paper read by Major Walker, or perhaps, inasmuch as that paper was a stringent criticism on the paper read on the 1st of March by Admiral Colomb, I may say more correctly that we are about to enter upon a fourth discussion of Admiral Colomb's paper. However that may be, there can be no doubt that we have to discuss a very important question. I have to remind you of the rule of the Institution that speakers must confine themselves to ten minutes, and it is important that we should adhere to that rule, as I believe there are a good many gentlemen who wish to express their opinion.

Colonel C. BRACKENBERRY, R.A.: Admiral Colomb, with that extreme modesty which is his distinguishing characteristic, compared himself the other day to David defending the children of Israel against Goliath of Gath. But that illustration was not exactly applicable. In the old story it was Goliath, not David, who was the challenger. I am not aware that either Major Walker or anybody else has challenged the increase of the Navy. On the contrary, I believe that every soldier would do everything he possibly could to obtain it. It appears, therefore, that Admiral Colomb in this case is the attacking party, for he most distinctly attacked the expenditure of money upon fortifications. He will probably say "not

upon some fortifications, but upon others." I must honestly confess that, instead of David and Goliath, he reminds me much more of a cartoon that I saw the other day in which an elephant was trying to hold an eel. It is excessively hard to get hold of what Admiral Colomb really means. I hear his lectures and speeches in this theatre. I read his utterances in the papers, and the articles which are founded upon those utterances, but his explanations are so numerous that I fail to know what he really does mean. However, it is clear that at any rate of this great scheme which has lately been arranged for the defence of the Empire, he attacks that part which provides for fortifications. And this again reminds me of an illustration. The great Jesuit missionary of China, M. Hue, tells how the Chinaman, when he is very sick, sends for a doctor and gets a prescription, every ingredient of which is necessary to make a good medicine. Then he looks over the prescription and says, "What does each item cost?" and if he finds an expensive item he scratches it out, and says, "I won't have that." Well, now all the doctors, naval and military, have put their heads together and prepared a good prescription for the defence of the Empire, which includes ships and fortifications. Why not adhere to it, and why take out one part of the scheme because it costs a certain amount of money? Take care that we do not act like the Chinaman. Every soldier would agree that over-fortifying is a bad thing, and the great reason why over-fortifying is bad, and has always been acknowledged to be bad by strategists, is that it locks up in fortifications troops which would be more useful in the open field. Well now, I ask in this particular case what would the proposal of Admiral Colomb do? The fortifications would be garrisoned as everybody knows almost entirely with militia and volunteers. On the other hand, for the defence of those ports by ships alone, you would have to use some of the finest vessels in the Navy. You would, therefore, be locking up your mobile forces by Admiral Colomb's plan and not by the other. Surely the ships are for the defence of the Empire, and are the most movable and the most powerful elements of that defence. The essence of the Navy is mobility, but to have complete mobility, to be able to go out over the whole world, meet the fleets of an enemy and destroy them, the ships must have a secure base behind them to which they can return. With proper fortifications the fleets would be able to roam and defend our commerce; they would be able, supposing an enemy sails to the east or west, to follow him and attack him there. But if they stick entirely to the defence of our home coasts, what we are doing is to lock up like garrisons the finest mobile forces which we could possibly possess. There is a great strategical danger which Admiral Colomb himself has mentioned in speaking of the French fortifications—namely—that of spreading the defence over a large surface or a long extent of line instead of concentrating the defence for attack or counter-attack, as the case may be, on one particular spot. Everybody knows that to be very bad management; yet according to the schemes which I understand Admiral Colomb to propose it seems that he would have his fleets scattered. He would have some fleets blockading, and we saw only the other day at the naval manœuvres, what very little chance they would have of blockading with any satisfactory result. One enemy gets out, he goes and strengthens another enemy, and that one gets out too, and very soon you have your own fleet dispersed in various places with the concentrated fleet of the enemy able to attack you in detail. Admiral Colomb appeals constantly to history, and he is perfectly justified in doing so. I appeal to history too with reference to one of his great propositions, that of cutting off the food-supply of the nation, and would ask him when has it ever been done? Can he in any portion of history or any era refer to a time when a whole nation has been deprived of its supplies until the ports of that nation were occupied by the land forces of the enemy? Another interesting question is with regard to the flanking fleet of which Admiral Colomb speaks: he says that no enemy can attack if he has any idea that there is a flanking fleet near him; I think the statement was within 700 miles, or at any rate a case was quoted in which at 700 miles a flanking fleet was supposed to prevent the attack of another fleet upon land fortifications. Now I am very much surprised to see that one very interesting incident has been left out of account or only glanced at, the one example in history of the meeting of two ironclad fleets; I refer to the Battle of Lissa, where the Italians, knowing that the Austrian fleet was within a day's sail, still attacked land fortifica-

tions. It is quite true that the land fortifications beat them off, as I hope they always would do, and certainly ought to do; but at the same time that had nothing to do with the Austrian fleet. I happened to have the advantage of knowing a great deal about that battle, because, although not actually present at the time, I was with the Austrian fleet immediately afterwards. I went over, under Admiral Tegethoff's care, every ship in the Austrian fleet and talked to every Captain. I then crossed to Ancona, and went over the Italian fleet in exactly the same way. The Italian Admiral was kind enough to send me round with his Flag-Lieutenant and allow me to talk to every single Captain of every ship, and from not one of those Captains, either Austrian or Italian, did I hear a single word about the danger of the fleet on the flank. I heard a good many criticisms as to how the battle was lost, but not any reason why they should not have attacked the fortifications. What we soldiers want to do, so far as I understand, is not by any means to take a single ship from the Navy, or withdraw from them one penny which they can possibly get out of the country to spend upon the Navy. The present scheme for the Navy does not even appear to us sufficient from our soldier's point of view, and what we want to do is to come to the aid of the Navy as much as we can, and not so much for the Regular Army to stand within fortifications, but for the militia and the volunteers to aid the fleets, forming as they will the garrisons of the great fortresses, and in that respect standing behind the Navy so as to secure its base of operations. This seems to me the only way to make the greatest possible use of the forces of the Empire. I have only one more word to say, and that will be, if the lecturer will allow me, a word of criticism on his admirable paper, which is, I think, one of the very best I have heard in this Institution. It is with regard to something contained in the very last paragraph, where he is too much down upon a very fine fellow indeed, whom we call John Bull. It seems that many of us are inclined to say that John Bull is extremely stingy and that he won't put his hands in his pockets, that he does not know his own interest, that he will not give money for the Army and Navy. One of the wisest men in Europe, Mr. Delane, the editor of the "Times," who honoured me with his friendship, used always to say, "Do not imagine for one instant that John Bull refuses any money whatever as long as you can only prove to him that there is sense in its payment. If you naval and military men will agree upon any expenditure whatever, and show that it is for the good of the Empire, and not for placing comfortably younger sons, you will find that John Bull will be perfectly ready to pay it whatever it may be." The whole of the Press has lately shown an almost undivided feeling; there has been hardly a dissentient voice; Parliament has spoken almost as clearly though not quite; as far as John Bull is represented by the Press and by Parliament, it is perfectly clear that he is ready to give the money which is required. Only if we soldiers and if Admiral Colomb will rush to the papers and we contradict each other, one side swearing that we do not want fortifications and the other saying that we do, how on earth is John Bull to know which is right? "If the trumpet gives an uncertain sound, who shall prepare himself for the battle?"

Admiral Sir R. V. HAMILTON, K.C.B.: In my reading of history, littoral fortifications have invariably been the resource of the weaker maritime Power against the stronger. To go back three centuries ago, Spain undoubtedly had every right to call herself the mistress of the seas, having not long before almost annihilated the Turkish Navy at Lepanto, and she monopolized the commerce of the world; in 1587, the year before the Spanish Armada, Drake sailed into Cadiz, and destroyed the fleet which was assembled in that port for the purpose of invading England. Two centuries after that Cadiz was well fortified. It was blockaded by Nelson, but Nelson never dared to attack the fleet which was in that port, so that in that instance fortifications were an assistance to the weaker Power. Again, go back to the wars at the end of the last century and beginning of this; while the French coast bristled with batteries, the English coast had only a very few round it, and the concentration of the troops and flotillas for the invasion of England was only rendered possible by the French vessels being able to creep along close in shore under the protection of their batteries. But for those batteries they could not have gone from port to port; had the French been the stronger maritime Power, their concentration would have been effected without the aid of those batteries

and under the protection of the Navy. Colonel Brackenbury has said that one objection to having too many forts is that it weakens the Army. There is no doubt about it. The Peninsular Campaign could never have been fought but for Trafalgar, which left us mistress of the seas, and enabled the English Army to carry out their operations without any fear for their supplies or of losing their base. With regard to fortifications I will read the words of Raleigh. Raleigh's counsel prevailed very materially in the Council held for the preparations for repulsing the Spanish invasion. He was a soldier. He was Military Commander for the West of England, and he said that without her fleet England could not stop that landing: "We say that an army to be transported over sea, to be landed again in an enemy's country at a place left for the choice of the invader, cannot be resisted on the coast of England without a fleet to impeach it, nor on the coast of France or any other country, except in every creek, port, or sandy bay they have a powerful army to make opposition." There is no doubt that you cannot prevent a hostile army being landed in any country, unless you have a very superior army indeed, and even then it is very doubtful. I perfectly hold that our naval arsenals and coaling stations must be defended. We want these forts and guns to protect the area in their immediate vicinity when our ships are away, protecting what Sir John Colomb calls "the wider area." A squadron might chase away the enemy's ships, and being drawn away from the port, one of the raiders might turn back and destroy all our coal stores if unprotected by forts. Lord Howe says: "Without a well appointed and commanding navy the British Army and lofty spirit of Britain would be confined to their own shores at home, and become powerless and unknown abroad; their commerce would fall into decay, pass into other hands, and we should be once more reproached as the Britain *toto ab orbe exclusi*, instead of, as now, feared and respected in every part of the world." I think in that respect there can be no doubt, and in strengthening the Navy so as to ensure the command of the sea, we also strengthen the Army, so that it is ready for offensive operations out of the country. I should now like to offer a few remarks upon the lecture, though I suppose in doing so I shall incur the odium of the lecturer, and also of his opponents, because I do not agree with either of them on the whole. That being the case, I am very glad to see a distinguished infantry Officer at the head of this meeting, who will probably hold the balance straight between the fortification and the naval side, as he knows both Services thoroughly. The lecturer says the British Fleet is not sufficient, because: "In 1810 we had 664 cruisers at sea as against 105 in 1887, and though 19 of the enemy's cruisers were captured in less than a month, still in one fortnight 20 of our ships were captured by the enemy close to our coasts." That is perfectly true. Fleets can no more be everywhere than can the police, and yet we must admit that the police have the burglars and murderers pretty well in hand on the whole; and so did the fleet, as we may judge from the fact that our exports and imports increased from 46,000,000*l.* in 1792 to 90,000,000*l.* in 1815,<sup>1</sup> therefore I apprehend that our naval police had very good hold of the sea-burglars. This increase was accompanied by the total ruin of the trade of France, and that of most of our enemies. During the two years of war with the United States, from 1812 to 1814, their commerce diminished from 50,000,000*l.* to 4,500,000*l.*, and two-thirds of their traders and mercantile classes were insolvent. Ours on the contrary increased from 64 millions to 87 millions. Now I will ask the lecturer would any amount of fortifications have saved the capture of those twenty ships, or could they in any way have added to our commercial greatness or the corresponding depression of our foes who were inferior to us at sea? Admiral Colomb has dwelt upon the fallacious conclusions drawn by the lecturer from the Baltic Fleet; in that respect I quite concur with the Admiral. I will not make any further remarks upon it, beyond simply saying the Russians were far too wise, with twenty-two sailing ships, to come out and attack the Allied Fleet of eighteen ships, of which twelve were steamers. Our fleet was far more effective than theirs, although inferior in numbers. The game of Russia was that Sir Charles Napier should knock his head against the stone walls of Cronstadt or

<sup>1</sup> Allison, 1815-52, vol. i, chap. 2.

Sweaborg, and that they should then come out with their fleet to attack him when disabled, but he did not fall into that trap. I do not think the lecturer's illustration of Napoleon's invasion of Egypt a happy one. The defeat of Napoleon before Acre and the ignominious capitulation of the French Army arose from the French having lost the command of the sea. They were cut off from their supplies and base of their operations. The Adjutant-General of the Forces has made several successful attacks upon Coomassie, Zululand, and Egypt, but I should have liked, if he had been present, to have asked him if he would have made any one of those attacks unless he had been perfectly certain that he had a naval base of operations to maintain his supplies, and to fall back upon in case of necessity. Malta was never besieged. It was blockaded for two years by sea and by land, and fell ultimately from starvation. I should like to ask the lecturer on that point, how long would it have held out against a regular siege, and what sized army would have been required to besiege it in that day? Because I think it is very important with regard to naval operations to know this. I myself suppose that an army of 25,000 or 30,000 at least, with a siege train, would have been, and would now also be, required for the purpose, and if the siege had taken any long time it is very certain that we should have regained the command of the sea, and the invading army would have been annihilated. Another remark he makes is why did not the British Fleet attack the French maritime fortresses? As a R.E. he should know they could only have been taken by a combined naval and military attack. Fleets are built to attack fleets, not fortresses. There are, however, exceptional cases in which they have successfully bombarded forts. The remarks of Admiral Farragut in the United States Civil War are conclusive on that point. He says: "We could pass and repass the forts (in the Mississippi), and have done so, and can do it again when required, and can shut up their fire as often as we like, but we cannot capture them without land force." Another great point made is "that steam is not in our favour." I hold most strongly, and I believe most naval Officers will agree with me, that steam, so far from bridging the Channel, has given us the greatest facility for its defence. There could be no such thing in these days as that Protestant wind (as it was called) which enabled William of Orange successfully to land on our shores. There could be no such thing as the various chances which happened to us when the French landed in Ireland. No matter what the wind is we could certainly insure our Fleet being on the spot in a very short time, and in that respect I agree with Admiral Colomb's argument about the flanking fleet being an almost infallible defence of the country, whether superior or inferior. The lecturer mentions the difficulty of landing on an enemy's coast: as he has dwelt on Napoleon's invasion of Egypt, I would remind him that Sir Ralph Abercrombie landed in Egypt, although some of the boats were capsized, and crews drowned, without the ships being able to get near enough to support the landing, and this he did in the face of a superior army. The lecturer also speaks of certain differences between the Army and the Navy. I am happy to say these differences of opinion only exist in London, for the moment we get away from here, and have to act together, there is only one difference between us, and that is a feeling of rivalry as to which shall most effectively support the honour of the country.

Admiral Sir E. FANSHAWE, G.C.B.: I wish to make a few remarks upon those parts of Major Walker's paper which refer to our defences against the invasion of this country. Major Walker, in the first part of the paper, expresses his belief that there exists throughout England a very widespread superstition, arising from our insular position, which leads Englishmen to place their entire dependence upon the sea alone as a defence; and he is so confident of this that he thinks it is a fact that the average Englishman regards with the unreasonable suspicion of prejudice and ignorance all those who would enlighten him as to the folly and danger of this exclusive dependence upon the sea. I think Major Walker is mistaken in this belief, because we have seen, during the last thirty years, many hundreds of thousands of Englishmen enrolling themselves as volunteers, with the entire sympathy and approval of their countrymen, for the very purpose of forming a system of land defence entirely independent of the sea defences. But, further on in the paper, Major Walker sketches, with all the precision and clearness of a syllogism, a system of invasion of England from which sea defence is altogether and entirely excluded.

He says that maritime countries afford peculiar advantages to an invading force, because the invading army is able to cross the sea in a compact mass to the shores of its enemy, and that it derives additional facilities in the case of an attempted surprise. England is a maritime country, and the inference is that England affords the advantages to an invading army here specified. The fallacy is so transparent that it is hardly necessary to point out that it consists in including England in the general premiss, whereas England is altogether exceptional, and excluded from it, by the fact that England holds the mastery over the seas that surround it by means of a superior naval force, which is capable of preventing any invading army from approaching its shores at all. But from this fundamentally unsound basis Major Walker draws his conclusions; the first of which is that we must fortify all the harbours and estuaries of our coast, which are specially available for the landing of an enemy, and which that enemy might select as being conveniently situated for his ulterior objects. There are other inferences drawn, but throughout the whole argument there is not the slightest indication whatever that England possesses so much as one single gunboat upon the sea. I will now advert for a moment to that part of the argument in which Major Walker draws a comparison between this facile invasion of England and the more difficult invasion of a country with a mountainous land frontier. I do so for the purpose of pointing out that the Commander of the invading army in the latter case will guard and maintain with the most scrupulous and jealous care his communications with the base from which he derives his supplies. But if any fraction of the army intending to invade England could get ashore here, it would find itself face to face with a bitterly hostile population—with the whole resources of England of every description (I hope previously well organized) concentrated against it, and with its communications hopelessly and irretrievably cut off. In that condition I submit that we may with confidence leave it to be dealt with by the military forces in England. I will only make one more observation. If it be an error—and I think it is a very serious error—to allow our just and confident trust in our naval defences to deter us from organizing in the most efficient manner the land resources of England as a subsidiary force for repelling invasion, it is an immeasurably greater error—a monstrous and fatal error—to ignore, or in the slightest degree to underrate the value of, or not to take every possible means to make perfect, the naval defences of the country.

General Sir LOTHIAN NICHOLSON, K.C.B.: I confess that I rise with extreme diffidence and some hesitation, for Admiral Colomb's explanation and re-explanations have somewhat puzzled me. As I said on first addressing the meeting when the original paper was read, the reduction was one which was *ad absurdum*. The conclusions which I drew then appear to me the conclusions which I shall draw now. Admiral Colomb proposed a theory which I maintain if carried to a logical deduction would lead to the disarmament of our fortresses and the entire demolition of the land forces. (Admiral Colomb: No, no!) That is the conclusion which I arrived at from his original paper. I maintain that that was a just conclusion, though I am answered with "No, no." I still maintain that that is the case, but I am glad to see that Admiral Colomb has somewhat retreated from that position. He began his answer to Major Walker by saying, "I do not myself deny, and I never met any one who did deny, the utility of permanent fortifications." That appears to me to be the whole of our argument; we maintain exactly the same theory. I am perfectly in accord with Sir Vesey Hamilton in every word that he has said, and I am quite certain that there is no military man in this room who does not agree exactly with what Sir Vesey Hamilton has laid down. Beyond that I maintain that if Sir Vesey Hamilton had given this lecture instead of Admiral Colomb, upon the lines which he has laid down now, there would have been little, if any, discussion upon the subject. I accept everything that Sir Vesey Hamilton has said. I accept the fact that the defences of the country are simply to back up the Navy under certain conditions. That is all we say; we say that under certain conditions the defence of commercial ports, of coaling stations, of military ports, is absolutely essential, and we maintain that under certain conditions these fortifications are justified. They are justified, I believe, by the majority of naval men: they are justified entirely by military opinion; but here I would beg leave to say that there is no question of rivalry between the Services. There is a feeling that

words have been used in this theatre to show, or to try to prove, that something of the sort is in existence. Now I maintain that as between the Services there is absolutely no rivalry; we all want to arrive at the same conclusion. We all want to find out what is best for the country; we all want to find out what is the best way to spend the money which John Bull will give us, even if we expend money upon fortifications which most of us perhaps would say would be better spent upon additional ships and strengthening the Navy. But, at the same time, I do believe that you may aim at an Utopia with regard to the Navy, and I believe that if you carry out Admiral Colomb's argument you do desire such an enormous increase of the Fleet that the country will never stand it. (No, no.) That is a matter of opinion. I believe, if Admiral Colomb's argument were carried out, you would require three fleets—three classes of vessels. You would require, first of all, large standing fleets to repel the incursions of the large fleets—combined fleets, mind you; do not let us think about one enemy: let us think of half-a-dozen enemies, that is what we have to be prepared for. It is not that we have only France: it is that we have a possible combination of Russia, France, and possibly a third. That is the position, gentlemen: it is not that we have got only to go across to Brest or to Dieppe, or to one of those places, and blockade them there, but we have to think of a dozen other places besides; so that I say, if Admiral Colomb's argument were carried out, it would be necessary to have separate fleets to repel possible enemies. He would also require a number of cruisers to keep open the distant communications within a certain zone with our commercial and military ports. And, besides that, we should require a third fleet, which it would be necessary to locate more or less in home waters. That is, I believe, in Admiral Colomb's mind. He shakes his head; well, very often he shakes his head to very little purpose, because, generally speaking, he climbs down from his position; that is the impression on my mind. I ask you, is it in the least likely that the country will give you three fleets? Now I maintain that the fortifications of this country are intended to take the place of the fleets, which must be maintained for the special protection of the ports and dockyards. I do not deny that it is absolutely imperative to this country to have a fleet strong enough to withstand the fleets of three or four combined nations at war against us. I do not deny that it is necessary to have cruisers to keep open communications with our ports, but I do say, in the exigencies of the present time, the chances that swift cruisers give an enemy of getting behind our first line of cruisers would oblige us to place our ports and our commercial centres in a position of absolute safety; and I say that light fortifications, such as we are now putting up—not the iron forts of years ago, I do not maintain that that is the proper way to do it—but the light fortifications we are using at present do comply with the exact principles that Admiral Colomb lays down. I do not want to detain the meeting beyond my limit of time, but I should like to refer to what Admiral Colomb has contended here. I beg leave to say I do not intend or wish to go into any detailed criticism of Admiral Colomb's paper. I wish merely to point out one or two things. He says: "The whole of the great commercial ports have recently joined to urge the Government to erect fortifications, rejecting with contumely the Government counter-proposal to introduce local naval defences to keep the ports open." A paragraph which follows shortly after that is as follows: "It is perfectly well known for some years back the Admiralty has systematically refused to concern itself with any defence of territory, and it is allowing at this moment all our great commercial ports to be prepared for the closure by submarine mines." That appears to me an extraordinary admission. In one place he says that the commercial ports reject with contumely the Government proposals, and in the other he says the Admiralty systematically refuses. That appears to me to be a contradiction, and perhaps Admiral Colomb in his reply will be good enough to explain it. We know perfectly well the commercial ports have refused. Sir Vesey Hamilton and myself were united in a most friendly way in making these proposals to the commercial ports, and they did certainly, speaking generally, refuse to accept our proposals. As I understand from Admiral Colomb, he rather sums up his argument in these words: "First, the naval force necessary to keep the port open; secondly, the garrison proper to provide against a *coup de main*; thirdly, the fortifications which may be proper to strengthen the hands of the garrison and support the naval

force in case of superior attack." I rather agree that that is the line, but it is a very difficult thing to get other people to agree to it too. We should like above all things that the Navy and the Admiralty should agree upon this point, but we cannot get them to do it; that is one of the difficulties, but I do not go so far as the lecturer in the second paragraph, in which he says that we must first of all consider the fortifications: secondly, we are to assume no naval defence: and, third, we have to let the garrisons come nobody knows where from. Well, now, in the first place, the fortifications are based upon certain well-considered ideas; secondly, we do certainly not assume that there is no naval defence, and I do not know anybody who has ever come forward to make such an assumption. I have never heard anybody in this room, or out of it, ever assume that there is no naval defence. The next says: "Where are the garrisons to come from?" That is a point upon which Admiral Colomb is mistaken. I have no hesitation in saying, if he had consulted with the military authorities at the Horse Guards, they would have told him that the garrisons are considered, and that the object of the fortifications is not that we might shut armies up, but that we might let armies loose. That is the great object of fortifications, and I am sorry that a man for whom I have so much respect as Admiral Colomb should have treated the soldiers' argument in that way. Fortification has for its object the setting a field army free. The object of fortifications is, as far as I understand it, to so protect your point of defence as to use as few soldiers as possible, and I maintain that that is the line which we take. We also maintain, as far as I know—and I have some means of knowing what are the theories upon which we act—they may not be perfectly sufficient ones, and I may not be the best expositor of them, but I shall maintain that no fortress is put up, and no battery erected, without, in a certain measure, considering who are the people to have the defence of it. That may not be done in sufficient depth; we must go deep enough into that question, but I absolutely deny that the question of the garrison of fortresses is entirely ignored. I am sorry to have detained you so long, but the subject is an important one.

Colonel A. MONCRIEFF, C.B.: Mr. Chairman and gentlemen, I have a few remarks to offer, although the subject in some cases has been touched upon by those who have preceded me. With regard to this most important discussion I feel convinced that the views of those who have approached the subject from a naval point of view and those who approached it from a military engineer's or land service point of view are much nearer—much more in accord than appears upon the surface. The difference of view which has been brought out so sharply is in my opinion superficial, whereas the agreement is fundamental. Indeed it is but one great subject, and whether approached from one point of view or the other, the land and the naval part of the problem are merely supplemental to each other. I think we ought to feel very grateful to Admiral Colomb for coming forward and stating his case from a purely naval point of view—which is a novelty—in my humble opinion, however, it is from that point of view that this subject can alone be safely approached, although it is generally from the other point of view that the question is taken up, but Admiral Colomb will, I trust, excuse me for expressing my opinion that he has weakened a very strong case by stating it rather too strongly. We know his object in doing so was to provoke discussion. That object has now been attained, and therefore I think we should endeavour to reconcile the two views and try to arrive at a practical conclusion, which will be approved of by both sides, and not create the impression among the less informed public that there is any radical difference of opinion between the two classes of experts. To assist in arriving at that desirable practical conclusion may I offer the following suggestion? It is too often the case that those who speak on this subject talk of the Navy alone as the first line of defence, and of land fortifications as belonging to a second line of defence, whereas military harbours, dockyards, and coaling stations are as much parts of the first line of defence as are the ships themselves. Indeed they are quite as necessary a part of the Navy, as in a previous generation were the sails and cordage required for the fleet. Therefore, if we treat these fortifications, which are absolutely necessary for the Navy, as part of the first line of defence, many of the difficulties which stand in the way of reconciliation might be removed, and there will not, perhaps, be the same differences of opinion. Whatever fortifications can *not* be



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treated in this sense, as a part of the first line of defence, might be, or should be, in the meantime neglected, and those which can be thus treated should be completed and receive expenditure and attention, in direct proportion to their importance as a part of this first line—no more and no less. I do not maintain that all coast fortifications belong to the first line of defence, but there are some positions indicated by naval authority—where a light armament sufficient to repel single cruisers would relieve the Navy materially, and economically, from a duty which falls on it, so far as they do so—might surely be included. I trust some conclusion may be arrived at which will stimulate the authorities to expend at once what is required to complete the first line of defence, and to treat the whole of this as one subject. I perhaps might be allowed to refer to another part of the lecturer's paper which referred to the manner in which the coast fortifications are now carried out. All the types of coast works in existence he divided into three different classes or types, and he mentions as a fact—to this I beg to draw your particular attention—that these defences are now carried out exclusively on the third type. Major Walker mentions that every emplacement now being built throughout the Empire is of this type, which he states is now most in favour. This system or type he informs us "is to take full advantage of the power of modern artillery, in order to disperse the guns both on plan and elevation without losing the power of mutual support, and also to give them the greatest possible amount of concealment by the use of disappearing mountings, and by the assimilation in appearance of the batteries to the surrounding ground." I should like to quote from a paper read by me in this theatre nineteen years ago all but a month, viz., on the 14th April, 1870, in which I recommended the disappearing system for coast works in the following words: "The guns should be scattered so as not to draw converging fire from the ships but to be able to converge their fire on them; all natural advantages should be seized as a means of disguising or masking the exact position of the guns. The guns should be so arranged as that each should have as great an opportunity as possible of using the new powers of traversing conferred by the system, either in attacking ships or in covering the ground in front of other guns. Batteries should be generally well retired from the Channel so as not to be readily approached from ships, and so that the increased precision of land fire would tell to their advantage," and so on. You will observe that the ideas are exactly, and the words almost, the same. In other words, the system now being alone applied is what was formerly known as the Moncrieff system, which was recommended and explained in this theatre nineteen years ago, and officially and otherwise on many occasions both before and since that date. I may also add that I have spent twenty years in pressing forward that system, and what is more important, in providing the means for making it possible. I naturally feel very much gratified indeed to find that the labour of the best part of my life and the persistent advocacy of twenty-five years has resulted in the system which I have so long recommended being the one which is now alone supplied throughout the Empire for coast fortifications, as stated in the lecture, and to see it so universally adopted, and I am proud of having so far benefited my country. It is a much greater change in principle than it seems. Until it was adopted and superseded the two other methods, which change may be said to have commenced about five years ago, through the influence of the late Inspector-General of Fortifications, the system was known by my name. Now that it holds the field, that name is never officially used. While feeling gratified that the disappearing, or more properly the invisible system, is being applied to so many works, I confess candidly that I do not enjoy what you may have also noticed, its simultaneous and complete application to that system's author.

Professor LAUGHTON: There can, I think, be no question that, as Sir Vesey Hamilton has pointed out, the function of fortified ports has been in all ages the shelter of the fleets of the weaker Power; when a nation is strong at sea, forts are useless—of what use, for instance, have our forts ever been? Have the fortifications of Portsmouth or Plymouth for the last 200 or 300 years ever fired a gun in anger? Have they, by their mere existence, ever deterred an otherwise possible attack? From time to time considerable sums have been spent upon them, but they have never been of the slightest use. In 1779, when the most formidable demonstration of the enemy was made in the Channel, the fortifications of Plymouth

were crumbling to ruin, the guns were honeycombed, and the garrison consisted of something like fifty men. The combined fleet of sixty-six sail of the line was off that port, and a large army was gathered on the coast of France waiting to be brought over; but no attack was attempted. D'Orvilliers and Cordora would not venture on any such attack. Why? Because Sir Charles Hardy, with a fleet very much inferior to theirs, amounting in fact to little more than one half, was off the Isle of Wight. That fleet was the defence of Plymouth, not the crumbling fortifications. It seems to me that many Officers, both military and naval, lose sight of the extraordinary power of a fleet in territorial attack. I am not, of course, speaking of the ordinarily understood duties of a fleet for blockade or naval engagement, but as commanding the shore. Now this may be to some extent matter of opinion, but I base my idea on the opinion of experts of the very highest authority. You will, I hope, excuse me if I read one or two of them. The first I shall quote is Nelson, not as to what he did but as to what he said might have been done. He wrote to Lord Keith after the fall of Genoa in 1800: "I say that the British Fleet could have prevented the invasion of Italy (in 1793), and at that time we had nothing to do; and if our friend Hotham had kept his fleet on that coast I assert, and you will agree with me, no army from France could have been furnished with stores or provisions; even the men could not have marched." The fleet, in fact, would have commanded the road all along the coast. Another man who, in some respects, in what we may call partizan war, was Nelson's equal, Lord Cochrane, wrote in his mature age, referring to what he had done in his youth, that he would stake his professional reputation on the assertion that "neither the Peninsular War nor its enormous cost to the nation would ever have been heard of" if he, Cochrane, had had the command of a small frigate squadron in the Bay of Biscay; that it will always be easy "so to harass the French coast as to render any operations in Western Spain or even in foreign countries next to impossible." These seem to me exceedingly strong opinions, though not referring to operations against our own shores: but if it is easy to prevent the enemy from invading other shores, *à fortiori* it must be to prevent them from attacking our own. With reference to these I had noted that remarkable passage from Raleigh's "History of the World," which Sir Vesey Hamilton has already read. But I may trace the same idea at a later period. In 1785 a Commission was appointed to inquire into the proper way of defending the dockyards. This Commission had at its head the Duke of Richmond, the Master-General of Ordnance, and with him were associated seven Officers of the land service and five of the sea service. It would seem from this preponderance given to the land service, that the question was considered from the first as one mainly affecting it. The data put before the Commission assumed that the fleet was away from England for three months, and that preparation was to be made to resist an army of 30,000 men landing from France. The advisability of fortifying the dockyards was formally stated and agreed to; but some of the naval Officers, and especially Captain MacBride, afterwards declared that the Duke of Richmond had acted throughout rather as the guide than as the President of the Commission. That perhaps might be disputed, but it is beyond dispute that the naval Officers on the Commission, including Milbanke, Graves, Jervis, and (though not so formally) Barrington, drew up, not exactly a protest, but an explanatory memorandum which ran in these words: "That our proceedings have been founded on the supposition of the whole fleet being absent for three months, as mentioned in the second datum, and, therefore, that the enemy may bring over an army of 30,000 men with artillery proportionate to an attack on Portsmouth or Plymouth, having three months to act in uninterrupted by the fleet. The bare possibility of such an event we do not pretend to deny, but how far it is probable that the whole British Fleet may be sent on any service requiring so long an absence, at a time when the enemy is prepared to invade this country, we must humbly leave to Your Majesty's superior wisdom, and therefore, whether it is necessary, in consequence of such a supposition, to erect works of so expensive a nature as those proposed, and which require such large garrisons to defend them." That is the opinion of men with the memory of 1779 still fresh in their minds; men too who were familiar with the events of 1759. Our ancestors used to speak of the Navy as the "wall and fence of the Kingdom." In modern times people have got to speak of it as the "first line of

defence." I object *in toto* to the expression. I do not know whether anyone ever heard a German speak of their army as their first line of defence, or of their Navy as the second line. They have a navy, and one of which they begin to be justly proud; but to speak of it as for the defence of the country, to be compared with their army, I cannot suppose it ever entered into a German's head. Now, I venture to think that the phrase of our ancestors was a correct one; but even if we are to adopt the new-fangled phrase, if we are to consider the Navy as merely the first line of our defence, surely it is on the first line that our principal expenditure should be made. Without now going into the detail of the Estimates, I am under the impression that the ratio of expenditure on the two (so-called) lines of defence is exactly the opposite; and that year after year the expenditure on the "second line of defence" exceeds that on "the first" by several millions. Major Walker, in his paper, seems to consider that he scores a point by saying, that even with the additional 12½ millions proposed to be expended on the Navy in the next four years, it will still be very far short of the ideal described by Sir Geoffrey Hornby, Sir John Hay, and others; but even with that fourth part of 12½ millions added to our naval expenditure, the annual sum spent on this "first line of defence" will fall far short of that annually voted for the "second"; and I venture to say that if for the last twenty years the 5 or 6 millions by which the Army Estimates annually exceed those of the Navy had been spent on the Navy and on what we are daily told is our "first line of defence," we should have come very near indeed to attaining even the ideal which we are now told is utterly Utopian. Before sitting down I should like to say one word, almost a personal one, as to the relief of Gibraltar. Major Walker says: "After all the fortifications did defend Gibraltar, the country wanted Gibraltar defended and it was defended." I maintain, on the contrary, that the fortifications did not defend Gibraltar, that if we had not been able to resume the command of the sea, fortifications or no fortifications, Gibraltar would have fallen in the spring of 1780, or in the summer of 1781, just as certainly as Minorca fell in 1782. It was to the enormous price which we paid for its relief by Darby in 1781 that I called attention. I am not for one moment saying that the country did not wish the place to be defended: quite the contrary, in the eyes of the country the defence was all-important; and it was and is justly proud of that defence. What I wished to emphasize was the enormous price which we paid for its relief. That price was the surrender of Cornwallis and the loss of our American Colonies. Putting sentiment on one side, I am not prepared to say that Gibraltar was worth the price. I do not think it was. I am not able to find in history any instance of Gibraltar having been of commensurate value to us; and I am quite sure that, if we were at war, and Gibraltar, in the hands of the Spaniards or the French, proved a thorn in our side, it would be no very difficult matter to take it from them, provided only that we had continued command of the sea.

Captain HUBERT GRENFELL, R.N.: In the few remarks I have to offer I do not wish to speak as a sailor, but as one of the public. I wish to note that if the papers which have been read, and if the discussions which have taken place mean anything, they mean this, that the highest experts in the Army and Navy of Great Britain are in sharp conflict upon the very foundation and essence of the question on which our existence as an Empire depends. It comes to this, that here in the greatest Empire in the world, as we like to call it, with a matériel and personnel whose excellence we are never tired of vaunting, we are still without what, for general purposes of explanation, may be called a "Plan of Campaign." Now, there are a great many Officers, I have no doubt, in this theatre, who are well familiar with a body called the German General Staff. I have some knowledge of it, and I would ask, what would be the answer which would proceed from the German General Staff if such papers and such discussions were mooted there as have been mooted here? I would ask whether the suggestion—and these papers and discussions are such a suggestion—that the principles on which the defence of the Empire rests are still unsettled and uncertain, would not be received with contempt and derision? Would they not say, "What on earth are we here for? Do you think that we are such bunglers at our trade that the very essence and foundation of our craft has not been thought out, and that we have absolutely no foundation upon which to proceed to build?" I do not wish to disparage our Intelligence Departments.

They have done most excellent work for the country, but I maintain that their work requires to be supplemented by some body analogous to the German General Staff. We need not, perhaps, go further than this theatre to find plenty of talent to deal with this question, but, at all events, I maintain that in the country there are adequate means of absolutely settling this question of how our Empire should be rendered secure, and if this is once determined, it would render such discussions as we have heard this afternoon, valuable as they are, absolutely unnecessary.

Captain GERARD NOEL, R.N.: I have read this paper with great interest (as I was not able to attend when it was read). I am very much impressed with the skill with which the battle with Admiral Colomb has been fought out, but I think in Admiral Colomb's answer he again gets the weather-gauge. I agree with the lecturer thus far, that naval ports and coaling stations should be defended by fortifications of sufficient power to enable them to cause considerable delay to an enemy who has temporarily overwhelmed the naval forces in the neighbouring waters, and that the mercantile ports should be sufficiently protected to warn off raiders. Major Walker's demands, I think, will be generally considered as moderate, but many naval Officers do not consider them sufficiently moderate. Now, I am of opinion that it would require a very limited amount of protection to warn off raiding cruisers, and that very moderate fortifications would afford considerable protection to our naval ports and coaling stations. For there can be no question of this, that it is a wrong policy for ships to submit to be mauled by forts; every shot that takes effect in an enemy's ship from a fort is so much clear gain to our Navy. Supposing, for argument's sake, that the enemy did, after a successful engagement, obtain command of the Channel temporarily, it could not be considered his policy to attack even a very moderately defended Portsmouth or Plymouth; he knows better, he must maintain his fleet intact in order to meet our refitted fleets when they are ready for sea again. Now, on the question of the command of the sea, which apparently is understood in such very different senses, I should like just to point out what may be considered a very good example of such a command. During the recent Russo-Turkish War in 1877-78, the Turks had a slightly more powerful fleet than the Russians, and what was the consequence? The Russians were locked into their ports in the Black Sea; they could make no use of the sea for moving troops or supplies, and the result of that was, as I do not doubt, the campaign was double the length, and more than double the cost, it would have been otherwise. If they could have carried their troops and stores from Sebastopol or Odessa along the coast, they would have brought the campaign to an end much sooner, and the reason they could not do so was simply because the Turks had a slightly superior naval force. In conclusion, I would just say a word on what one would conceive to be the duties of the two Services; the Navy holds that it is its primary duty to secure England from any approach of the enemy, and it expects every available person in the country to join forces in preventing an invasion, if such a dire event should seriously threaten. Of course, we look to the military to organize such a force, but as long as the Navy is on a proper footing the question of invasion is not to be entertained. The particular province of our sister Service, under these circumstances, is to join forces with us (that is with the Navy), and to carry the war into the enemy's country.

Sir JOHN COLOMB, M.P.: I did not intend, Sir, to offer any observations to this meeting on this discussion, had it not been for the observation of our friend Sir L. Nicholson, who raised the real issue involved, I think, in this discussion. He did so in the clearest possible words when he said that fortification was a substitution for what he called a third fleet—that fortifications were in substitution of naval sufficiency, because that is what it comes to. Now that is an assertion with which I must say I absolutely differ. I say, and I should challenge anybody to give proof that my view is not correct, that no fixed fortifications can take the place of mobile fleets. I was very glad Professor Laughton alluded to the misuse of a term describing the Navy as “a first line of defence.” It strikes me that very term has led us into much of that confusion which we are to-day discussing. When we talk about a “first line of defence,” I think we can only mean that it is a first line of defence against invasion. I can in no other way understand the adaptability of that term unless it be that it is the first line of defence against invasion. But, Sir,

I think that arises from not taking what is necessary in the question, an all-round view. You cannot say that the Navy is the first line of defence for the Empire, for this reason, that it is the only possible line of defence of the internal communications of the Empire. You cannot say that a Navy is the first line of defence for the protection of your commerce, because it is the first, second, third, and only line of defence for the protection of your commerce. Therefore it comes to my mind to this, that if you mean to preserve your Empire, as the internal communications of your Empire are sea communications, you cannot argue down the limits of your necessary naval force by bringing in fortifications at all. You have to provide for the sufficient protection of the internal roads of the Empire, and they are sea roads. Now even granting, which I cannot, for the sake of argument, that this country could survive the loss of her Empire, she could not survive the loss of her commerce. To say, "We will only think of the country, and not of the Empire, and we will whittle down our naval force to the extent necessary only to defend the country," leaves you still face to face with the fact that the commerce of the country is over the sea, and all over the world, and without that commerce the country cannot live. Hence you cannot whittle down the naval force necessary for the protection of your commerce. Then it comes to this: how is that force to be applied, and how is its extent and nature to be estimated? Well, it is estimated by the necessities involved, by the consideration of the ports of issue of an enemy, and the forces to issue at his disposal. You cannot protect your commerce unless you are prepared to play the part of a cat that does not run about the house looking for mice, but places itself down at the mice holes. In that sense I say the protection of the commerce of the country forces you to have a sufficient fleet to dominate the force of the enemy off its ports and in its own waters, and when you have done that—and now I come to the real point—would any territorial attack upon the country be possible? My gallant friend Sir L. Nicholson says, "Do not look at one or two Powers, look at three or four"—that is the question. The question is the possible combination, and you must be prepared, I say, to meet possible combinations, whether of one, two, three, or four. That being so, for the protection of your commerce you are bound, for the safety of the people of this kingdom you are compelled, by reason of their dependence upon trade, to have a sufficient fleet to keep the bulk of the enemy's fleet practically in its ports, or to ensure that you shall beat him when he comes out. It is from that point of view I approach this question, and it is only when you are assuming that position that you are entitled to consider fortifications at all. Therefore, when you are in a position to defend the roads of your Empire, when you are in a position navally to do what is necessary for the protection of your commerce, you have destroyed the possibility of a combined naval force acting and co-operating in your own waters, and you have taken the first step for the security, not only of your Empire and your commerce, but of the shores of this kingdom. Therefore, I ask, "Are we justified in accepting the lecturer's views?" I say we are not, because the lecturer's views are founded on the supposition that fortifications can take the place of a fleet, as stated by our friend Sir Lothian Nicholson.

Sir L. NICHOLSON: No, no.

Sir J. COLOMB: Well, I am sorry indeed if I have misunderstood him, but I will ask him did he not say that fortifications were in substitution of what he called a third fleet?

Sir L. NICHOLSON: Yes.

Sir J. COLOMB: That is my point, but I do not accept his division of the Fleet into one, two, or three. My contention is that it is a whole fleet, a sufficient naval force.

Sir L. NICHOLSON: You must not take one part of my argument without taking the whole.

Sir J. COLOMB: I am very sorry that I misunderstood my gallant friend. I challenge him now to say, did he not, perhaps by accident, assert that the fortifications were in substitution of what he called a third fleet?

Sir L. NICHOLSON: Yes.

Sir J. COLOMB: The division of the fleet into one, two, or three parts is an arbitrary and artificial division, and it does not really affect the question. The question

is the sufficiency of naval forces for the definite purpose of protecting your commerce. That is my point of view, and a part of that force he designates as the third fleet. Therefore he accepts naval insufficiency, because he says fortification will take the place of the third fleet.

Sir L. NICHOLSON: No, no.

Sir J. COLOMB: I cannot understand the position from any other point of view. That being so, we must now come to the question of fortifications, and I say distinctly that I have always held that you must protect the stores and the depôts of your fleet. That is what I maintained twenty-five years ago, and I stick to what I then thought, because time has certainly confirmed my opinion. You must have by local means protection for the stores and depôts and supplies of your fleet. Therefore it comes to this, when you have provided for the protection of your commerce by dominating the naval power of the combination of your enemies in their waters, what then are the attacks that you may expect upon the supplies and stores of your own fleet? I say everything goes to show that the only attack that you would then have to fear would be the attack of raiders. That is what I have always maintained, and I do not understand my brother ever to have said that he would leave all the ports and stores and coals of the Navy absolutely without local protection from what may be reasonably anticipated as raiding attacks. Therefore we come to consider the extent to which the improvised cruisers, or possibly war frigates, may escape under the circumstances I have named. The next point is, is it likely that they will attack these places? All I ask is—and I think I may claim to have raised this question of local protection twenty-five years ago—reasonable protection by local means for our naval stores and coals all over the world against raiding attacks. What I complain of is this, that we should have extended that view until we have got to this horrible doctrine, that you can supplement naval power by fixing fortifications with militia or volunteers behind them. I have spoken rather warmly, because I feel so. I do exceedingly feel the gravity of our position as an Empire. I agree with my friend Colonel Brackenbury as to the differences arising on vital points between different naval and military authorities. I am quite sure the naval and military authorities have only one aim, and that is to get at the truth, and do the best for the nation. What I think has been the fact is that military and naval authorities have been led astray from a calm consideration of material facts by politicians and by popular influence based upon erroneous information. I am anxious to say also, that if the country will not provide money enough to discharge the naval and military obligations of this Empire, we have to consider the relative value of the different necessities of our defence, and that if we have only a certain sum to spend, and that sum is not sufficient to do all that naval and military men agree is necessary, you must sacrifice your fortifications, and even your army, to your fleet. I hope that will not be necessary. Before I sit down I would say another thing. Sir L. Nicholson said these garrisons and fortifications were to release the Army. Well, Sir, I cannot see, if you exaggerate the proportion of your fortifications at Portsmouth, Chatham, Plymouth, and Pembroke, and elsewhere, and at your mercantile ports, I cannot see how you are releasing the Army. I, Sir, look at the field of operations of the Army, not in this kingdom, but over sea, and on the frontiers of the Empire. When we remember that we have military or land frontiers abroad, which put together are equal in extent to the distance from this to Cape Horn, I feel it is time to think whether we are right in localizing the bulk of our military forces in its area of action to the United Kingdom only, as we have done. What I feel strongly is, that for the protection of the internal roads of your Empire, you must have a sufficient navy. India, every Colony, and every dependency under the Crown has a direct and common interest in the sea, and you can expect that the Colonies and possessions will act by and by, as Australia has begun to do, and that they will help you to create and maintain this sufficient fleet. Therefore I decline to discuss a policy which has at the bottom of it the locking up of money and military force in an undue proportion, and an overdone system of fortifications for the protection of this country by purely military force from invasion. If we are going into the future with any confidence at all, we must go into it with a policy that, come what may, let nations develop their fleets as they may, the British Empire must do it also, or the British Empire dies; and having done that

we come to the next step, that is, a sufficient Army adapted for the defence of India and the Colonies abroad, and above all things adapted for counter-attack by descents under cover of our fleets on the shores of the enemy. Then you may face the future with confidence; but I protest against the doctrine that you are to go forth into the future with an insufficient fleet, and merely some newly arranged fortifications exaggerated in their proportions, and unnecessary in their extent for the protection of this country.

General Sir LINTON SIMMONS, G.C.B., R.E.: The points which have been discussed in these various meetings seem to me to have brought the naval and military contentions to a much closer agreement than existed when the paper was first read. That paper I must say I misunderstood, in much the same sense as Colonel Brackenbury did, that it was intended, or at any rate if it was not intended, that it carried with it the contention that all military defences on our coasts, and for our naval and commercial ports, were unnecessary, and that their entire defence ought to be left to the Navy. The other day when I spoke here I said, and I repeat it, that if our Navy were so strong as to be able absolutely to guarantee what Sir John Colomb has rightly called the interior communications of the Empire, fortifications as a matter of theory might become unnecessary. But I asked the question, and have heard no answer, "What will be the extent of the Navy that would be required to afford absolute protection to those communications in all parts of the world?" I took the Report of Sir R. Vesey Hamilton, and the other members of the Committee who reported on the manœuvres in detail; there were five requisites mentioned as necessary in order, according to their views, to place the Navy in a proper condition to oppose a great maritime Power. What were those five requisites? I believe that they would, if properly worked out under the supposition that we are opposed to two or three maritime Powers, increase the Navy to ten times what it is now proposed by the Government. (No, no.) Yes, I repeat it. Work the problem out in detail. We have the statement of these gentlemen that for a blockading fleet you require five ships in the blockading squadron to three ships that are blockaded. You then require an effective reserve squadron, absolutely confined to home waters, sufficient to hold the Channel and protect the coast and commerce of the United Kingdom. Then, in addition, they say you require ironclad ships for active local defence on the coasts for the protection of Great Britain, Ireland, and the Channel Islands. (No, no.) All I can say is, there is the Report, which you can read. I have not got it with me now, but I had it at the previous meeting, and quoted it *verbatim*. Altogether they have demanded a very large order, such an order that I believe that the country would not dream of it for a moment, and I doubt very much whether you would find sailors sufficient to man the fleets if they existed, and to carry on the commerce of the country at the same time. I hear naval Officers assume that they have the command of the sea. I do not believe our British Navy at the present time is in a position to warrant that assumption: I believe it is not in a position to enable us to take that as an axiom, and it certainly is not likely to be so before the year 1894, when the Admiralty programme, which is a very great step in advance, has been completed. I believe that programme is a mere instalment of what we require, and that before we can assume as an axiom that the British Navy commands the sea, not only in our home waters round these islands, but in the Chinese seas, in the Australian seas, in the Mediterranean, and elsewhere, the naval defence will be a very expensive operation. That being the case, I think what these gentlemen are all agreed to is self-evident, that the "stores and other things" must be protected by other means, and that the real question under discussion is as to the amount of protection to be afforded in each case. We are agreed on that point now: the question then is what is to be the nature of that defence. Now I can state most positively, having been on Lord Carnarvon's Commission, and having been employed in various ways in connection with fortifications, that the fortifications that have been constructed for many years are not excessive. The amount laid out on actual fortifications in the Annual Estimates is only a few thousands, 10,000*l.* or 20,000*l.* at the very outside, and that has been the case for the last fifteen or twenty years. There was a loan of 3,000,000*l.* the other day, but that was not so much a question of fortifications, as it was due to the improvement in matériel, which rendered necessary the changes in the armaments, and the

re-arming of the fortresses. But there is a fallacy which, I think, underlies a good deal of what has been urged. It was referred to by a previous speaker, and it is also referred to by Admiral Colomb, who says: "Are we sure that it is not mistaken ideas on the question of defence which produce the anomaly of the greatest Navy in the world costing only 14,000,000*l.* a year, while a numerically small Army costs 20,000,000*l.*?" The question so stated has nothing to do with the defence of England. A great portion of the Army that costs 20,000,000*l.* is connected with the defence of our land frontiers in India and elsewhere, except that India pays for the Army actually in India; but it does not pay for the Army in England, which is the *dépôt* in great measure for the large force in India. The same thing applies to the defence of the frontiers of the Cape of Good Hope: a large force is almost constantly required there, or there must always be a military force ready to be sent there. These are all included in that estimate of 20,000,000*l.*, so that it is a comparatively small portion of that 20,000,000*l.* which should be taken into account in considering this question of the defence of our maritime ports. Then we hear what the duty of the Army is: it is said one great duty is to go abroad and fight on the Continent. For my part I believe the day is gone, at any rate until the great armies of the Continent are reduced, when the small active Army of Great Britain available for such an enterprise, which at the outside will amount to 50,000 men, will be of any great effect in Continental wars, unless under one contingency, namely, when the military Powers have exhausted themselves in the contest; then such a small contingent as that which England may send on the Continent might be of some importance in determining the war. But as to the idea of sending troops abroad and launching them on a great expedition on the Continent, I think it is out of the question. What we can do is this: when the defence of our ports is of importance, and the defence of some of them is undoubtedly of the greatest importance, should an enemy's squadrons or raiders attempt to attack them; say, for instance, London. If London were totally devoid of fortifications; if the Thames were open, there would be nothing to prevent ships coming up and destroying an enormous amount of property now in comparative security behind the defences which exist in front of Gravesend; whereas these defences would prevent such a disaster. They are also of the greatest importance from another point of view, that is, if they exist they will most probably not be attacked. It is no argument against permanent defences to say, as has been urged in these discussions, that the fortifications of Plymouth or Portsmouth have never fired a gun in anger, but the fact of their being there has prevented them from being attacked. I am not an advocate, nor do I think any military man is an advocate, for excessive fortifications; on the contrary, we desire to minimize them to the utmost, consistent with what may be the probable attack that may be made against them. I was very much struck by what Captain Grenfell said, and I quite agree with him that this discussion is very difficult to carry on here, because there are numerous points in the consideration of these questions which cannot be divulged in public. We are therefore in a very imperfect position for the discussion of these great questions in this theatre. It would be as absurd for the Government, or for authorized people in this country, to expose our weak points, or to develop the measures necessary for the defence of the Empire, as it would be for the German Staff to exhibit all their plans of offence and defence across their various frontiers. For this reason I think the discussion, although it has produced good, cannot come to any final conclusion. I only regret, and what has been said by one speaker has supported my view, that we have two departments, and that there can be any possibility of division of opinion between the two Departments. I think, as I said before, we ought to have a great Department of War, which should consider the whole question, with subordinate Departments of the Army and the Navy working under one responsible head. And I am further tempted to say, that if there were a calamity or disaster to this country there is no single person that could be held to be in the least degree responsible for it. The Government of the day may be turned out, but that will not afford a remedy. We have changeable Governments: there is no one responsible, and it is an utter myth for the country to suppose that anyone, even a Secretary of State for War, or a First Lord of the Admiralty, is responsible for the defence of the Empire. I think the only way to settle the question is to have one



great Department of War, as they have in Germany. There the head of the Department is the Emperor, who brings together all the various opinions of the different Services. I think we ought to have a similar Department under a responsible Minister for War, assisted by persons of experience, who would not be subject to frequent change, and would be responsible before the country for any advice they might give, and if things were to go wrong through their neglect, they ought to be hanged.

Major WALKER: I should like to make my observations very short, but the advantage which Admiral Colomb has had of answering at very great length in print the observations which I made the other day will necessitate my taking up a few points, though I will endeavour to make my remarks as short as possible. The reason that I am obliged to make some reply is that Admiral Colomb has made charges against me which directly call for an answer. He has given one or two instances to prove that I made "wild shots" in some of the illustrations I have given, and he implies that I have not thought at all about what I was saying as to the real bearing of these points upon the question under discussion. Well, Sir, that is not the case: if Admiral Colomb will excuse my saying so, I did not make wild shots: I may be wrong, but I thought and still think that the instances I brought forward bear out my statement as far as it goes. I think that where Admiral Colomb has misunderstood me is that he has thought that I carried my argument a great deal further than I intended to do. Of course my argument will not bear out the statement which I assume Admiral Colomb supposes I intended to make, that a flanking fleet is of no use whatever. I began my lecture by saying that I admitted that the principles of strategy are eternal. They are just as applicable to a naval force as to a military one, and for anybody, soldier or sailor, to say that a flanking fleet has no effect would be an absurdity. What I wanted to say was that it was not an absolute bar to any action in every, even the most extreme case. Admiral Colomb, I thought (I may be wrong), in his lecture asserted that the flanking fleet, no matter how small or how distant, was an absolute bar: and he quoted the case of the Baltic as a proof of that. With this explanation I will proceed to answer a few points in Admiral Colomb's reply, and first as to the money. He objects to my saying that the average Englishman does not like fortifications. He says, "the average Englishman voted 11,000,000*l.* for fortification in 1860, and 3,000,000*l.* in 1887." The average Englishman no doubt anticipated an expenditure of 11,000,000*l.* in 1860, but there was not any such expenditure; there was an expenditure of less than 7½ millions. Again, the 3,000,000*l.* now voted is not 3,000,000*l.*, but only 2,600,000*l.*, and of that a very considerable portion is not for fortification proper, so that you must make a considerable deduction from Admiral Colomb's 14,000,000*l.* There is another point which, I think, is still stronger, and that is, what are these millions for? To say that from 1860 to 1880 we spent 7½ millions on fortifications is an absurdity; why was it necessary to spend 7½ millions in 1860? Because the fortifications of the country had been neglected since 1815, so that the 14,000,000*l.*, with the deductions I have mentioned, is the expenditure on fortifications for seventy-five years. Now we come to the small point about the twelve guns in cupolas. The fact is, if it is a mistake it is a "Times" mistake, which I do not think is worth noticing. Again I say "naval history says no." Admiral Colomb twits me with having confused battle-ships and cruisers, and he apparently thought that I imagined an attack by cruisers while he said battle-ships. I may have fallen into the error, but surely the less is contained in the greater, and I assume if you could have five battle-ships off Plymouth, you could have a few cruisers, and more than that, if you have five battle-ships, I have always understood that a fleet of battle-ships would be accompanied by cruisers. I believe that is the proper formation of a fleet, to have vessels of all sorts combined, and if there were five battle-ships they would have a proportion of cruisers with them. However the question is hardly worth disputing about. Then he asked me very pointedly what Plymouth was fortified against. I think I ought to say that I was discussing Plymouth as unfortified. I was talking of Admiral Colomb's assumed Plymouth where he said: "Supposing there had been no fortifications at Plymouth there still would have been no danger of attack at all." But as a matter of fact Plymouth is fortified against a powerful attack, not only an attack

by cruisers; and with reference to this Admiral Colomb may say, not to me but to the authorities, "That is your military ignorance in having fortified Plymouth against attack by a fleet which is impossible." But is that the general opinion of the Navy? It may be wrong. But there is a remarkable case to indicate at all events a divergence of naval opinion on the point. A very short time ago at Shoeburyness, before the School of Gunnery, a naval Officer, Captain Meryon, who of course we presume is an authority on naval affairs, lectured on this very subject. The lecture was based altogether upon the assumption that Plymouth was easily attackable by an ironclad squadron. Captain Meryon assumes that attacks on Plymouth, on Malta, and on Portsmouth were all possible, all easy, would all be carried out in a few hours; there was no question of delay, no question of special ships.

Captain CUSTANCE: Might I explain, as I have talked with Captain Meryon on the subject, that it was part of his brief, he could not have lectured unless he had supposed that the place was open to attack; it was part of his brief.

Major WALKER: I went down very shortly afterwards to Shoeburyness to lecture upon the subject of fortification. I assumed some facts, I said this, that, and the other about ships. I do not know whether what I said was right, but I assumed that an attack on a place like Portsmouth was not an easy thing for a fleet. Then they said to me, "Why there was a naval Officer down here the other day, and he told us how the thing is to be done. In Heaven's name how are we to get at the truth?" I do not know exactly what the Navy want in the way of forts, now, even after hearing Admiral Colomb. Then there is the remarkable case of Ascension. The Island of Ascension belongs to the Admiralty, and what have they done there? They have fortified it and mounted guns upon the island, and are now, I hear, particularly anxious to get modern guns for this station. Why this anxiety to retain and rehabilitate a station condemned by Lord Carnarvon's Commission if the Navy want no land defences? The next point is the one about the Baltic, and this is very curious, because Admiral Colomb in fact says that I am utterly wrong, not having had the advantage of seeing the French authority from which he took his information, a pamphlet by M. Pont-Jest. My account of the Baltic campaign was taken from the only source I had at my command, the German official account. That I believe is perfectly accurate, and I am confirmed in that by this book which Admiral Colomb has now very kindly put into my hand, and which is the source upon which he depends for his argument. It is a description of the campaign given by a gentleman. I do not know who he is, but he says he was officially attached to the Admiral, so that I suppose he was an official of some kind, but he is not apparently a naval Officer. But what is it? It consists of eight articles extracted from a French provincial paper, being a defence of the Admiral.

Admiral COLOMB: Not a provincial paper, but the seat of Government was then at Tours; the *Moniteur* was published there.

Major WALKER: It is an extract from the *Moniteur* containing a defence of the Admiral against accusations which had been made against him, of having done nothing in the Baltic. When we come to the defence of an Officer for not having done something that he said he could not do, and that people thought he ought to have done in a campaign, written by a man under his orders, I think we might make some allowances for lapses from judicial accuracy, but I do not propose to make any. I accept the statements here, and what do they amount to? From my point of view I think not at all to what Admiral Colomb wants. Admiral Colomb says, describing Count Bouët's having obtained information on the 13th August that the blockade was raised and the fleet at Wilhelmshaven was coming to the Baltic, Bouët ordered the fleet to reassemble at the Great Belt to meet them, and that it is conclusive of the power of the flanking fleet. Bouët had six or seven ships. There were at Wilhelmshaven three frigates. I believe there was another German ship at Kiel, a wooden frigate, and these ships were coming round, so Admiral Bouët orders his fleet to go and meet them at the Great Belt. What else could he have done? (Admiral Colomb: Hear, hear.) Here are three ships. (Admiral Colomb: It is a fine point.) Oh! no, it is not, if you will only hear me. Here are six ships with the opportunity of eating up three ships,

and they take the opportunity. The Germans did not come round, unfortunately, and Bouet did not eat them up. What does he do? When this opportunity is removed he goes right on to Colberg and prepares to bombard, but he does not do it. Why, because of the flanking fleet? No, but because, he says, upon the piers and wharves there was a crowd of women, children, bathers, old men and sick people, and he will not bombard them. Why? Because he wants to give M. de Bismarck a lesson in humanity and true courage. He gave him that lesson, but mark the sequel. A very few days afterwards he was joined by a ship called the "Rochambeau," which had a lighter draft of water than any of the ships he had on the first occasion, and it was able to get nearer up to bombard Colberg. He went back with the "Rochambeau" to bombard Colberg, and he lets out very innocently what he thought. This gentleman says in the pamphlet, if he had had the "Rochambeau" on the first occasion, it would have gone very hard with him if he had not had a shot—if he had not made what he called a "serious demonstration" against Colberg. Surely all this does not prove anything except that this Admiral, having had the opportunity to destroy a very inferior fleet, lost it, which does not prove, with regard to the three ships at Wilhelmshaven, that if he had known they were staying there, he would have taken the slightest notice of them. The ships were blockaded the whole time to the end of September, and he had the command of the Baltic, and he did nothing, and he tells us why he did nothing. He says he suffered from conflicting orders, from shallowness of water, and a lot of other causes, but he never once utters a syllable about the flanking fleet.

Admiral COLOMB: Would you mind quoting the last paragraph which is quoted in the print.

Major WALKER: "La machine tint bon, heureusement, et le 'Rochambeau' parvint à rallier l'escadre, quise dirigea sous Kioge-Baie. Colberg, une fois de plus, a été sauré, car à peine au mouillage, le Vice-Amiral Bouët fut informé que l'escadre du nord était entrée à Cherbourg, que la Jade était débloquée, et très-probablement la flotte Prussienne en profiterait pour pénétrer dans la Baltique, afin de l'y surprendre."<sup>1</sup> Now, I take the case of the Mediterranean. That is also rather curious. Admiral Colomb again made some assertions that were very strong as to my ignorance of the subject and the fact that Napoleon knew nothing at all about the possibility of interruption. Now, on that point, there are some curious details that I have noticed. Napoleon arrived at Toulon on the 8th May. The same day Nelson entered the Mediterranean at Gibraltar, and Admiral Colomb is correct when he says, before Nelson entered the Mediterranean there were no British ships there. But Napoleon was fully impressed so early as the 8th May with the necessity for haste. "He knew from the movements of the English that he had no time to lose."<sup>2</sup> Again, on the 19th, the day the French sailed from Toulon, Nelson was actually cruising very near Toulon. On that night his fleet was dispersed by a storm. The French fleet got to sea without Nelson having been aware of it, and the French proceeded to Malta, where they did not arrive till the 10th June, but as late as the 2nd June Nelson knew that the whole of the French transports had not sailed from Genoa, so that he not only knew that they had escaped, but also in a general way where they were, in fact he expected to meet them at Naples or Sicily. On the 7th June Nelson was joined by a reinforcement of ten ships of the line, which brought him up to an equality with the French fleet in line-of-battle ships. He sailed after the French and the result we all know. But there are a few other points that I would like to mention with regard to the knowledge of the French of the danger they ran. In the first place Lord St. Vincent was blockading Cadiz and had been there for months, and that was quite enough on the extreme theory of the flanking fleet. Lord St. Vincent had eighteen sail of the line at Cadiz, and on the extreme theory of the flanking fleet Napoleon ought not to have been able to stir out of Toulon even supposing that Nelson had never come into the Mediterranean. I am carrying it to the extreme point that I think Admiral Colomb did, and therefore I say that I was perfectly right in asserting as I did that Napoleon did risk it; he did know. He says himself distinctly in his memoirs that

<sup>1</sup> I read this in English.

<sup>2</sup> Bourrienne's "Life of Napoleon."

"the supposition of an engagement with the English was the general subject of conversation," *i.e.*, on board the French Fleet. And Bourrienne says with regard to the capture of Malta, how fortunate they (the French) were to obtain possession of this strong fortress, to have it handed over in two days to a fleet that "*was pursued by an enemy.*" Surely if anything is plain it is perfectly certain that they knew this danger. Indeed the French Admiral said, "God send we do not meet Nelson." Napoleon himself was so sure that they would have met the English fleet that he trained the soldiers to board an enemy's vessel. He had so strongly anticipated a contest with the English that he actually drilled the men in anticipation of it, so that I think there again I am justified in saying that Napoleon wilfully ran the risk. But now what do I mean by the whole thing? I felt bound to make this statement because Admiral Colomb accused me of making wild shots. On the contrary, I took a considerable amount of trouble. I have known the history of the expedition of Napoleon to Egypt since I was a child. What I am contending for is not that a flanking fleet is of no use, but that Admiral Colomb strained it too far; and all I say is this, that the flanking fleet must be sufficiently powerful, and must be within striking distance. And what does that striking distance mean? It is not a fixed distance; it is not 700 miles, 300 miles, or any other fixed distance, but it depends entirely on the genius, or the boldness, or otherwise, whichever way you like to call it, of the commander, and to some extent on the resisting power of the fortress. Napoleon risked it and he would have risked it over and over again; he risked it in Egypt; and what afterwards happened to him and his army does not affect the question in the least. Then there is the case of the Baltic. Admiral Colomb and Professor Laughton accused me of not knowing that the Russian ships were sailing ships, and that a portion of the allied fleet were steamers. I knew that perfectly well. Admiral Colomb says I did not casually read Earp's "Campaign in the Baltic." That was the very book I did read. I took the numbers of the combined fleet off Cronstadt, and neglected the detached squadron which made nine more ships under Admiral Corry (?), but that does not affect the point. Admiral Colomb proves my case for me, because he says that Sir Charles Napier was very much concerned about the safety of his flank. That is to say he was concerned about this Russian fleet, which (says Admiral Colomb) could not by any chance have issued out of Cronstadt; he was alarmed—I use the word in a Pickwickian sense—and still he went and attacked Bomarsund. What I say is this: if Admiral Napier, who was not perhaps a genius of the highest order, although a very distinguished Admiral, ran any risk that he thought was a risk, what would Napoleon have done under like circumstances? It all depends upon the man. Napoleon would have run the same risk if the flanking fleet had been within a quarter of the distance, and you may always have the same thing. You must remember, "Some new Napoleon may arise to fright the whole world again." I would like to see him, I think we want it. There is one very curious point. I will allude to it, because so much has been said to-day about the necessity for only light fortifications, and the difficulty of determining what the fortifications should be. Admiral Colomb says, "it is certain that it would take a great deal of fortification to stop a light attack," and he proves it by a very remarkable instance of the war in the Baltic, and it is absolutely true. But his whole argument is that I am putting too much value on fortifications, and here he is putting the very words into my mouth—here is the very proof that I want, that it takes a good deal of fortification to stop *even a light attack*. I quite agree that it does take a *good deal*, and it is merely a question of how much. Then, again, Admiral Colomb says that I did not know that Admiral Buirid raised the blockade of Berghaven because some ships had escaped, and he feared, not an attack on his base, Milford Haven, but a superior force attacking Admiral Rowley's fleet; why did he not fear an attack on Milford Haven? Because it was fortified.

Admiral COLOMB: I shall not tell you why, but he did not.

Major WALKER: I should have begun by disclaiming any official sanction for my paper. I should add, that every opinion expressed in this paper is my own opinion, exclusively my own, and nobody else has anything whatever to do with it. There is next a question of refitting and reequipping about Kiogo Bay. I think this witness of Admiral Colomb's, M. Pont-Jest, tells rather against him. He says,

Admiral Bouët-Willamez in the Baltic had his open base at Kioe Bay. And what does Admiral Bouët's apologist say, but that it was one of his great misfortunes, because he had constant trouble from it, that every time any ship had to revictual, he had to keep another ship on guard to prevent her being attacked; and another French Admiral actually left the North Sea and returned to Cherbourg, because he said he could not get any provisions or coals, because he had not a proper port to go to? In the second campaign in the North Sea the French had actually two squadrons blockading Wilhelmshaven, which returned alternately to Dunkirk to revictual. Admiral Colomb asked me where I got the illustration of the maritime frontier from. I am very sorry I cannot quote the passage, but I am almost sure it was in one of Brialmont's works. I read it when I was in Canada, and it made rather an impression upon my memory, but I cannot recall the exact reference. I have noted very briefly some of the things that have been said during the discussion to-day. It is quite impossible for me to go into the whole story. With Admiral Sir Vesey Hamilton nobody could disagree. What he said was absolutely true, and I for one am certainly not concerned to deny anything he said. He asked some question as to whether I expected forts to do the duties of ships. The answer is, of course I do not. I said in my paper the comparison between forts and ships ought never to have been made; they are different things. He goes into my quotations about the attack on Egypt and Malta, and all that, but as he is not here, there is no use, I think, in answering him. I have already answered it in my reply to Admiral Colomb. Admiral Sir Edward Fanshawe made some remarks which I think I ought to answer. He spoke about my having proposed to have defence against a landing, but why did I do so? Why did I talk about a landing? Because if you reduce entirely the land force, then a landing becomes possible. If you are prepared, I do not think it is very probable. If you are not prepared, I think it is very possible and probable, and my reason for mentioning the subject is, because it was laid down a short time ago by Captain Penrose Fitzgerald, that he would disarm the volunteers. If the volunteers were disarmed, and we had no army in this country to resist an attack, the temptation would be so great, that some Napoleon would most undoubtedly try it. What did Sir William Harcourt say last night, a statesman of first class ministerial rank? He says: This craze for voting money for the fleet is all nonsense; it is a craze manufactured by the experts, and he adds, this is the point of it, I wish that the immunities which we enjoy in this country from invasion on account of the Channel—not of the Fleet, the Channel; it is the Channel, as I have said in the beginning of my lecture; hundreds of thousands of Englishmen are under the impression that it is the Channel that saves them, not the Fleet—he says, speaking of the immunity this extent of water gives us, I wish it would at the same time prevent us from attempting to go and attack our neighbours on the Continent. It shows the superstition there is, as I have said. Professor Laughton, I think, is the one exception to the icy atmosphere which has encompassed us. Professor Laughton appears to me to have got very hot over a subject that I think it very little worth contending for. Admiral Colomb has passed it by—my point, i.e., about the relief of Gibraltar, as, I suppose, either unimportant or unanswerable. But Professor Laughton again to-day re-asserted very strongly all the old story about the fortifications of Gibraltar having caused us the loss of our American Colonies. What does it matter whether they did or not. What has that to do with the point we are discussing? The point we are discussing is whether fortification is a useful subsidiary to fleets, and in that particular case it was. It enabled Gibraltar to hold out in the intervals of the periods at which it was relieved by our fleet, and if it caused the loss of fifty Colonies, this has not the slightest bearing upon the question we are discussing. Professor Laughton brought forward another point very amusing, and it is so good I must ask your patience for a short time. It was with reference to the Commission of 1783, and Professor Laughton has correctly quoted all that was said and done by the land and sea Officers, but he has not told you anything about the debates in Parliament. Admiral Colomb sprung this large subject on me very suddenly, but I did get hold of some very curious speeches, from which I will read some extracts to you, as showing the real reason why that Bill was rejected. The proposal was for improving the permanent fortifications of Portsmouth and Plymouth, to enable the fleet to act with effect

abroad. The land and sea Officers reported unanimously that neither land nor sea forces are sufficient without fortification, and the first datum in the reference to the Board of Officers, to which the Board *unanimously agreed*, actually asserts the necessity for fortification of Portsmouth and Plymouth, by assuming "the temporary absence of the fleet, or its inability, from other causes, to defend the dockyards." And Mr. Pitt asks, it having been asserted by somebody that the Board had been led by the nose by the Duke of Richmond, "Was it credible that a Board consisting of such men could have been duped into giving such a report?" The Officers who dissented did so on the ground, not that the fortresses were not required, but that there were no men to man them. Is not that very strange? "The land and sea Officers in the report agreed in adding gunboats as a defence in every case." There you see you have the Army completely agreeing with the Navy on the floating defence. There is no difference of opinion. Lastly they say: "Your Majesty's land and sea Officers humbly observe that they make this report in the full confidence that providing additional security to the dockyards is in no respect inconsistent with the necessary support of the Navy, which they consider as the first object of attention for the safety and prosperity of the kingdom." Is there the slightest difference between the opinion of the land and sea Officers in 1786 and the views put forward in my paper? You cannot show the slightest difference. Mr. Pitt said, in introducing the measure in the Commons, "*The system of fortification did always make part of the general defence of England*, and he would prove it by the most incontestable records of history," and he quoted in proof specific instances in every reign from Henry VIII to Anne. A gentleman named Bastard got up and said: "These strongholds will be seminaries for soldiers, universities for praetorian bands." Mr. Lemon said: "A system which might grow into a formidable engine of prerogatives." You see the point. It is nothing about the Navy; it is all (the old nonsense cropping up again) the fear of a standing army. Lord Hood, of whom Nelson said, "he was the best Officer, take him altogether, that England had to boast of;" and again, "that he was equally great in all circumstances in which an Admiral could be placed." Lord Hood strongly encouraged the proposal, and voted for it on the ground that it *would give freedom to the Navy*. But the great speech against the measure, the speech which carried Parliament against it, was made by whom? A great naval authority? No, by Sheridan, whom we all know only too well. And what was his argument? He said, this measure "strikes at the root of the Constitution itself." And, alluding to the proposed militia garrison, he says: "Would it even for a moment be pretended that men under such disciplined habits were not a thousand times more likely to despise the breath of Parliament, and to lend themselves to active purposes of tyranny and ambition, than the loose and unconnected bodies, which exist, even with jealousy, under the present regulations?" And again, it "must insure an unconditional submission to the most extravagant claims which despotism could dictate." That is to say, the whole argument against the extension of the fortification of Plymouth and Portsmouth was directed not against fortifications, but against the raising and maintaining of a military force for their defence. The House divided, and the resolution was rejected by the casting vote of the Speaker. If I had more time, and the meeting had not thinned out so much, I could have given many more proofs that the view I take is a reasonable one. But what is the view I take? I think it has been misapprehended. I do not propose for one moment to say that a powerful fleet is not our first necessity. I accept fully all that Sir Vesey Hamilton said; but I do think it is a pity that we should have brought this discussion at all into this arena. What do the papers say? The papers have taken the subject up very warmly, and I have seen a very large number of extracts from the journals, and they have said every absurdity that it is possible to utter on the subject, from the "Times," which has gravely misrepresented my paper, down to a journal which writes, "Major Walker thinks that fleets are all nonsense." It is into the arena of a discussion conducted on these principles, mind you, that we bring down the question by discussing it here, and it is into this arena that we bring the discussion as to whether there is any difference of opinion, or any discrepancy between the Army and Navy. I, for one, think it is a mistake. I think, under the peculiar circumstances, I was bound to make some

answer to Admiral Colomb, but I regret excessively having been obliged to do so. I regret excessively that Admiral Colomb obliged me to do it.

Admiral COLOMB: That is what I wanted.

Major WALKER: That is so; but I think it is a mistake, because you cannot convince people who are absolutely ignorant. What is the position the "Times" took? The "Times" must surely know that there is not a gun mounted in any fortress of the Empire that is not done by the authority of a Board which embodies all the highest Officers of the Army and Navy; then what is the use of saying the Navy are not consulted, and money that ought to go to the Navy is squandered upon forts? Everybody is consulted, and although I may agree, and do to a very large extent, with Admiral Colomb, still I say that neither Admiral Colomb nor I can change the whole administration of the Navy simply because we happen to disagree, if we do disagree, with what is done by the higher authorities. It is done by authority, and by the authority of the highest Officers of the Army and Navy.

Admiral COLOMB: Without any central control.

Major WALKER: I fully agree with what Sir Lintorn Simmons said about the control, but we cannot help it. The "Times" goes full charge at the War Office; but it is not the War Office; it is the Army and Navy together who are responsible for things as they are, or is it not rather the system by which both Army and Navy are controlled?

Admiral Sir HOBSTON STEWART: I think we owe a debt of gratitude to Major Walker for one sentence. I am now sorry that I have not taken part in this discussion. It is this: "A satisfactory defence of the Empire can only be obtained by a just combination of all the elements of defensive strength, ships, fleets, material obstacles, organization of men;" and it ought to be put up in golden letters over our spending departments, and in the House of Commons; gold is the colour that stands best the damp and foggy climate of London. I for one tender my best thanks to Major Walker for embodying in his lecture a truth which is the whole point, and, to my mind, unassailable.

Major WALKER: One more word: Lord Wolseley has asked me to point out, in his unavoidable absence, with reference to the question he raised here regarding the invasion by William III in 1688, that there are very strong proofs, amounting in fact to certainty, of Dartmouth's fidelity to James II, and of the full intentions of the fleet to fight the Dutch if they encountered them. That the fleets did not meet was due, as we all know, to the "Protestant wind," as it was called, which, while favouring William's movements, kept Dartmouth wind-bound in the Gunfleet till too late. I cannot at this late hour detail all the movements of the fleets, it will be sufficient to quote James II's own letter to Dartmouth, written on the 9th November, 1688, in which he says, "Nobody could work otherwise than as you did; I am sure all knowing seamen must be of the same mind." And James was himself no mean authority on such a point. And Dartmouth, speaking to Burnet after the event, says, "that whatever stories the Dutch might have heard of Officers or seamen, he was confident they would have fought very heartily."

The CHAIRMAN: Bearing in mind all you have heard, and looking at the clock, I shall confine any remark I have to make within the smallest possible limit. As far as my memory serves me, Admiral Colomb, either in the paper which he read on the 1st March, or in the remarks with which he prefaced it, said that his great object was to raise discussion, and if so, I think we may congratulate him on the realization of his intention, for we certainly have had not one discussion, but four discussions, and those really of a very exhaustive character. Now just one word as to what is the result of all that has been said upon the recent occasion in this theatre. I think we may safely say that we are all of one opinion as regards principles; but that with regard to details there has been a difference of opinion. We hold, I think, both soldiers and sailors, that the supremacy of the Empire on the sea must be maintained at any cost, and even at the sacrifice of any existing interests. Then I think we all agree that there must be fortifications for the protection of our maritime arsenals, and also for the coaling stations. With regard to the extent of these fortifications there is a very great diversity of opinion. Some hold that it is merely necessary that they should be of such a character as to beat

off raiding armed cruisers: others think that this is not sufficient, and that the fortifications should be able to make resistance to a much more formidable attack. I confess I think the latter view is the safer, but that is a very different thing from affirming that fortifications can be a substitute in any way for the naval forces of the country. To hold such a view as that would be a great mistake, and in order to avoid that mistake it has been well said, more than once, during the discussion, that we should not term our maritime fortresses a second line of defence, because that implies that they are of greater importance than they really are. I conceive that they should be looked upon as protected bases of our naval operations. That view, I think, stamps our fortifications as to their utility, and I am quite sure that if the thought should ever arise of doing away with them, the men who would be the very first to protest against such a measure would be the Officers of the Royal Navy. I repeat that we are all of one mind, that the supremacy of the country at sea is the main thing to look to, and we must take care to insure that Britannia, whether she "needs bulwarks or does not need them," is able to rule the waves. I have nothing more to do than to propose a vote of thanks on the part of the meeting to Major Walker for his very able paper.