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Blockades: Under Existing Conditions of Warfare

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Wednesday, June 15, 1887.

ADMIRAL THE RIGHT HON. SIR A. COOPER KEY, G.C.B., F.R.S.,
&c., &c., Vice-President, in the Chair.

BLOCKADES: UNDER EXISTING CONDITIONS OF WARFARE.

By Rear-Admiral P. H. COLOMB (Gold Medallist R.U.S.I.).

HAD I recollected when I accepted the invitation of the Council to read this paper, that Captain Long had in 1881 read one here under the title of "The Study of the Tactics of Naval Blockade as affected by Modern Weapons," I think I should have asked permission to make some change in the present title, for the changes which have taken place in the conditions then and now are not such as to suggest any entirely new ground, and I do in fact only hope to approach Captain Long's subject from a possibly rather different point of view. Captain Long's paper should, however, be read with this, as checking and controlling it. Indeed the chief change of condition which we may note is perhaps some change of opinion since Captain Long wrote, not of a very solid or reasoned kind, and not founded, so far as I can see, on any definite data.

It may be well to point out in the first instance that the blockade of which I have to speak to-day is military blockade—the blockade of war ships. Otherwise it might be easily supposed that it would be proper to touch on the law of blockade and the intricate question of prize for breach of blockade. If we call the blockade of war ships military blockade, it would no doubt be convenient to call the other civil, or commercial blockade, for although it is a military operation it has behind it the sanction of law, whereas military blockade has only the sanction of force behind it.

And in considering the subject we shall at once see that whereas we ordinarily speak of military blockade as if it were but one thing, or but of one kind, it is really three things, or three kinds of the same thing. It will be clear to you that this is so when I mention the three words *Sealing-up*, *Masking*, and *Observation*. These words denote three quite different operations, and yet we know that they have at all times been carried out and spoken of under the same name. I will give you three familiar illustrations which will at once make the distinction clear. Nelson, in March, 1794, speaks of blockade in its first and special sense when he writes, "The blocking up of Corsica he (Lord Hood) left to me: it has been accomplished in the most com-

plete manner; not a boat got in or a single soldier landed, although 8,000 men were embarked at Nice." Here the object was more to prevent ingress than egress, but it would have been just the same had he claimed that not a boat or a man got out. The ports of Corsica were sealed up. The intention was that nothing floating should either leave or enter them; that was the ultimate object, and it was attained. When Nelson arrived near Cadiz in October, 1805, with his full force, he was so far from blockading the Franco-Spanish Fleet that he purposely kept his own ships out of view, in order if possible to deceive the enemy into a belief that his numbers were smaller than they actually were; but he kept close watch on Cadiz by an inshore squadron and repeating ships, so as to have the earliest intelligence of the enemy's movements. If the Franco-Spanish Fleet had not come out this would have been called blockade. Similar operations had often been conducted under that name; but it was evidently not the sort of blockade which the same Officer had carried out at Bastia. The object was the opposite of blockade. It was hoped that the enemy would come out, but every precaution was taken that if he came out he should be fought. The operation was not blockade; it was *masking*. So long as the English Fleet was there the Franco-Spanish Fleet was harmless. It could only become mischievous by fighting and beating the English force.

Before Nelson arrived off Cadiz the operation was called blockading; but it was not; nor was it masking. Collingwood took his station off the port with no more than four line-of-battle ships, well knowing that the Franco-Spanish Fleet might any day come out and surround him with thirty-five ships of the line. Collingwood, therefore, was neither *sealing-up* nor *masking*; he was *observing*. He had no power of keeping the enemy in port, nor of fighting them if they came out; but he had powers of watching them, and of reporting their movements. He exercised both. He despatched Blackwood home with news of their arrival; he remained watching himself; and had they come out he would have hung about them and detached ship after ship until he was left alone to report on their route and probable designs.

As there are, therefore, these three distinct operations included under the ordinary term blockade, it requires little reflection to see that we must consider them separately before we can come to any conclusions either on the general subject or on particular applications of it. I shall have to form and to express in this paper opinions as to how far "blockade" can be carried out "under existing conditions of warfare." These opinions are now freely expressed on both sides of the question. Great differences exist; but I am not sure that the disputants have commonly, or even at any time, drawn the distinctions that I have now done; and it may be found that some of the differences have arisen from the fact that opponents have in their minds different things, though they have both been using the word blockade. We may easily, I think, come to two apparently opposite conclusions, and yet not be open to the charge of inconsistency. "Blockade" may be pronounced impossible in modern warfare, and

yet "masking" and "observation"—commonly included under blockade—may be held quite possible.

A great number of naval Officers hold the opinion that it is worse than useless to go back to naval history for the lessons of modern naval war. I have been for many years past of a contrary opinion—an opinion which grows stronger every day—that it is impossible to form correct views of the present or future of naval warfare unless they are based on a pretty thorough investigation of its history in the past.

A Royal Commission appointed in 1859, nominally to consider the "defences of the United Kingdom," but really only to consider the fortification of the Royal Naval Ports, reported in 1860 that "it would be very unsafe to rely on the experience of former wars in judging of" the question of the power of our fleets to mask those of the enemy. No one certainly ought to "rely" on the experience of former naval wars under sail, to guide him in forecasting the future of those under steam, if to "rely" meant to expect the same thing under very different conditions. But this sentence was probably meant to go further, and to say that past experience was no help to the preparation for the future. It was followed up by the wide assertion that because of steam "the efficient blockade of an enemy's ports had become well-nigh impossible."

It was the more remarkable that such a thing should be said at that particular date, seeing that six years earlier we had established and maintained by means of steam vessels a most rigorous and absolute military blockade of all the ports in the Russian Empire for two years.

The very next year, too, was to witness the establishment of a blockade of the coast of South America from the Chesapeake to the Rio Grande. And so far from this gigantic operation of war being unsuccessful, it resulted in the destruction of 270 sailing vessels and of 85 steamers, as well as in the capture of 939 sailing vessels and 210 steamers. This steam blockade also was undertaken by a nation totally unprepared for it—a nation which had, when the war broke out, only about twenty-four war steamers all told in commission, of which the most part were on distant stations.¹

This operation was sealing-up pure and simple. The attempt was to prevent all egress and ingress from and to the enemy's ports—clearly the most difficult form of blockade. The Royal Commissioners were not thinking of this in their modified denial of its possibility. As they were showing that the naval defence of the United Kingdom was not to be depended upon, they must have included both masking and observing in their use of the word blockade. Blockade in their view had been rendered by steam well-nigh impossible, and so there was the broad chance that the enemy's fleets would evade the masking fleets off their ports and elude the watchfulness of the observing squadrons.

I believe I shall not be far wrong in assuming that another Royal Commission sitting now might, if it were to decline to examine and

¹ Soley: "The Blockade and the Cruisers."

draw the lesson from history, be tempted to say that the torpedo-boat had made blockade "well-nigh impossible." It may not be amiss to notice that hardly anyone would agree that steam alone had made sealing-up, masking, or observing more difficult than they had been in the days of sailing ships. It may quite be that the same change of opinion will follow longer acquaintance with the torpedo-boat.

But my point is that steam, looked at in the light of history, had at least not injured our powers of blockade in any of its three aspects. A contrary opinion could only be arrived at by taking into account all the advantages which steam gave to the enemy for escape from his ports, and neglecting all those which it had given to the blockading force for observing him.

Such a blockade as the Federal States set up off the Confederate ports could not have been thought of before the days of steam. It was steam which enabled the ships to close into the mouth of the port. It was steam which, by mitigating, if not removing, the perils of a lee shore, enabled the Federal ships to anchor as close to the water passage they were guarding, as the range of the enemy's guns planted on shore would allow.

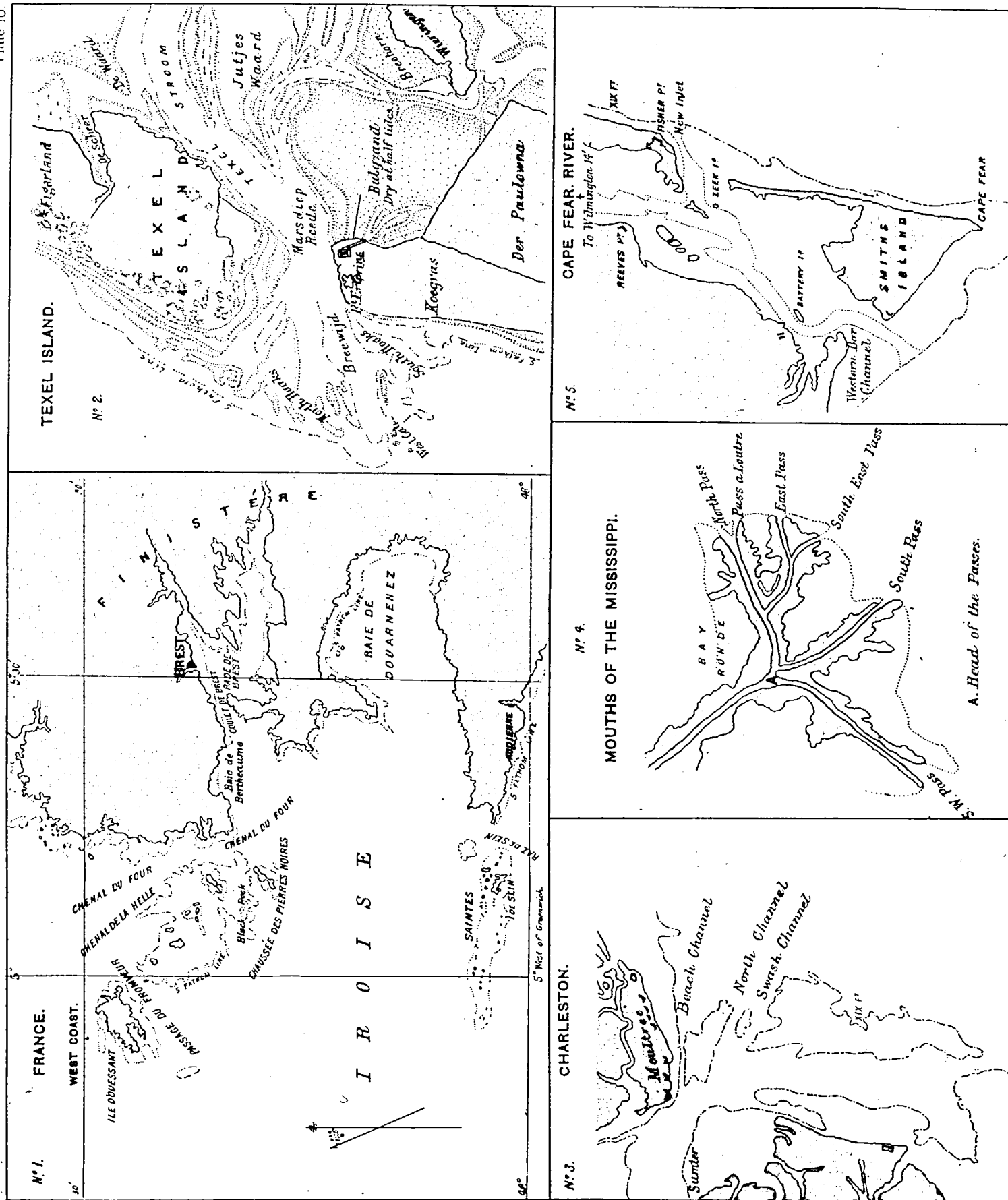
There was not generally any real attempt at anything more than observing and masking during the revolutionary war, and only the inshore squadrons of frigates and light ships kept close off the ports containing the enemy's fleets. The dangers of a lee shore necessarily kept the blockading fleet with a good offing when the wind was foul for exit from the port; when it shifted and made a weather shore, it blew the blockading fleet off, and the blockaded fleet out.

When Hoche and Morard de Galles had brought the preparations of the Irish Expedition to a state of completeness in December, 1796, in the harbour of Brest, Colpoys, with (apparently) fifteen sail of the line, was masking them. In the language of Schomberg he was "cruizing off Brest" (Fig. 1).

The greater part of the troops were embarked as early as December 1st, and Wolfe Tone, whose journal gives a very fair picture of what was going on inside at Brest, embarked on board the "Indomptable" on that day. On the 3rd he could only say it was "pretty certain that the English were in force off Ushant to the number of sixteen ships of the line and ten frigates." Colpoys was generally so far off as not to be visible, but the mere idea of his vicinity was sufficient to delay the sailing of the squadron. The watch was so loose that Richery with five sail of the line and two frigates got into Brest from Rochefort on the 11th December, and this movement followed on the return to England of Sir R. Curtis' squadron which had been cruising near Belleisle between those two ports.

On the 15th December there had been for more than three weeks a fair wind out of Brest, and then they could only see from the lookout at the point, four sail of the enemy. These were Colpoys' frigates, but he himself had been blown 30 miles to the westward, so that the French Expedition was able to sail the next night. Colpoys, having thus missed them, returned to Spithead on the 31st.

What is the lesson of history here if we choose to read it? The



fair wind out of Brest gave to the French all the advantages which steam could have put at their disposal; but it took away from the fleet of Colpoys all the advantages it gave to the squadron he was watching. If Colpoys had had a steam fleet he would never have been blown 30 miles away. He would have been seen every morning from the Brest signal station, and it is doubtful whether even the idea of the expedition could have matured under such circumstances. As it was, Richery very nearly ran into Colpoys' jaws on making for Brest. Had the former been able to maintain a position closer in, Richery would never have sailed from Rochefort.

I think this historical lesson is complete. The men are men whether the motive power be steam or wind. The French Expedition sailing in darkness through the Raz du Sein did everything that steam could have permitted. It was the absence of Colpoys which allowed of the escape. Had Colpoys been independent of wind, he would not have been absent. Hence steam is shown, by the experience of the past, to have made masking a certainty which it never was before.

We might easily misread another lesson, where the same Wolfe Tone tells us the best of the story. On the 8th of July, 1797, he arrived at the Texel and found De Winter's expedition ready to start; troops were on board, and everything complete. The force consisted of 15 sail of the line, 10 frigates and sloops, and 27 transports. The troops embarked came to about 13,500 men. Lying in the Texel it is apparent that they looked straight out to sea, but though Duncan's fleet was very usually in sight from the Dutch ships, it was not always so. Wolfe Tone on the 14th of July counted from the stern windows of the "Vryheid" "ten sail of English ships of war, little and big, who had presented themselves off the mouth of the Texel." On another occasion De Winter was dependent on the return of a flag of truce for the numbers and force of the enemy (Fig. 2).

On the 16th July, the Dutch Officers received their final instructions, and only waited for a fair wind to sail, in defiance apparently of Duncan's squadron. But the wind was "as foul as the devil." On the 20th the Dutch saw nineteen sail of British ships, but were assured that not more than twelve of them were of the line. De Winter was in fact well aware of every movement of our Navy, and the distribution of our ships. Yet the nearest wind to the N.E. wanted, was N.W. "Damn it to all eternity for me!" writes Wolfe Tone. On the 20th, Tone had been eighteen days on board, and they "had not had eighteen minutes of fair wind." On 27th and 28th there was a fair wind, but so light that the Dutch could not stir. They could then see Duncan at anchor and counted twenty-two sail. De Winter was in the habit of landing with his glass, and scanning the English Fleet from a neighbouring height. Occasionally they were cheered by a whiff of fair wind, but whenever it came, the tide was foul and they could not move.

So things continued till the 21st August, when the expedition, as it stood, was finally abandoned.

These conditions were pretty nearly the reverse of those at Brest.

The weather was so fine that it enabled Duncan to anchor off the Texel, and to make absolutely sure that the Dutch Fleet was thoroughly masked. He had all the advantages which steam could have given him. The Dutch, on the other hand, had all the disadvantages which dependence on the wind involved. Could De Winter have been supplied with steam for his motive power, how would history have been affected? Simply it appears that the Battle of Camperdown would have been the Battle of the Texel, and would have been fought by the Dutch when they were loaded with troops. The masking by Duncan would have been effective either way.

Lord Bridport had the reputation of being one of the most persistent and daring of blockaders. An Officer who had served under him wrote in 1799 that since Lord Bridport had "held the command of the Channel Fleet, the French have been blocked up in Brest harbour much closer than they ever were before. No Admiral at any time has kept Ushant so continuously on board as he has done; not a day passed, *when the weather permitted*, that Lord Bridport did not stand in; and when the wind would allow him, he has taken the fleet close in to the Black Rock; *his own ship the 'Royal George' has even been within it*, which, at the commencement of the war, was rarely done, even by 74's."

When it is pointed out that the Black Rock is 13 miles from the entrance to the Goulet of Brest, some idea can be formed of what was considered close work in 1799, and true explanation offered of the escapes and evasions of our squadrons which sometimes occurred.

One of the most remarkable of these occurred in this very year 1799, and under the nose of this most distinguished Officer.

In April, Admiral Bruix had at Brest 25 sail of the line, 5 frigates, and 5 smaller vessels ready for sea. On the 25th, Bridport, at the head of 16 sail of the line, but apparently only 1 frigate—the "Nymphé"—looked into Brest, and saw 18 sail of the line at anchor in Bertheaume Bay. Five others were under way, and those at anchor were ready for an immediate start (Fig. 1).

If we had not heard what has just been read, we should have been astonished at Lord Bridport's immediate proceedings, and would have said that he led up directly to the untoward circumstance which followed. He stood away to the W.N.W. at 2 o'clock in the afternoon, and at 4 was 12 miles W.S.W. of Ushant, or 30 miles from the French Fleet.

Only this one frigate, the "Nymphé," was apparently left to watch; and it may be that the "Dragon," 74, was somewhat detached towards the "Nymphé" for the purpose of repeating her signals to the Admiral.

The wind was fresh at N.E., and the French were there and then getting under way. The accounts are not clear as to whether the "Nymphé" became aware of the fact or not. There was foggy weather either that evening or next morning, or both, but the result was that at 9 o'clock next morning—the 26th—the "Nymphé" just caught the last ten or eleven of the French ships rounding the Saintes to the southward. The "Nymphé" made all sail to the N.W. to report, but at noon, when she was 15 miles W.S.W. of

Ushant, she had lost the French Fleet, and had not found her own. At 1 o'clock she saw the "Dragon," who repeated her signal to Lord Bridport, but it was then clearly too late. The French had six or eight hours' start. Lord Bridport, however, made sail for Brest, not apparently being satisfied with the "Nymph's" information; then discovering its truth, but not till the morning of the 27th, he fell back to Bantry Bay, being then and subsequently joined by ships which brought his number up to twenty-six. The French never, however, had any idea of Ireland; they were off to the Mediterranean, there to effect certain combinations, and finally to return to Brest, where they lay in overwhelming strength.

In this instance, Bridport was either intending to observe or to mask. As forces were on the way to join him, it is possible that he had not the intention of attacking Bruix in any case with his sixteen sail. But it is clear that he never meant to let the French Fleet out to be neither fought nor watched. Naval Officers of the day spoke of the escape of the French as "extraordinary." To us, now, it would seem to have followed naturally on Bridport's proceedings. But as Bridport was not at all the man to let slip a chance, we can only assume that the necessities of sails and wind compelled a course which to our modern notions would seem so mistaken.

But then the question for us here is, could this all have happened with steam fleets? Bruix again, as De Galles before him, had all the advantages which steam could have given him. He had that fair wind which steam represents, and he used it so that he must have been well on his way at breaking daylight on the 25th of April. Was there anything wanting to success beyond the absence of Lord Bridport? Would Lord Bridport have been absent if he had had a steam fleet? I take it that no argument can lie on the other side. Even if we allow that Bridport actually feared a battle when the odds were twenty-five to sixteen, and meant to risk the escape of the fleet rather than the chance of an action—still a withdrawal of 30 miles would never have been a necessity for a steam fleet in like disparity. But knowing what Lord Bridport was, and what his brother was, I can hardly believe that the risk of action would have weighed against the risk of the French escaping. I must, therefore, conclude that it was the dependence on wind which made it unsafe for a fleet to spend the night nearer than 30 miles from Bertheaume Bay. But if this be so, what a disclosure it makes of the real inefficiency of the observation, or the masking, of hostile fleets in their own ports during the last great naval war, and what a curious commentary on the generally received axiom that "Steam has bridged the Channel."

It is useful here to recall Nelson's proceedings in masking Villeneuve at Toulon, as it may remind us that tremendous as the effort was, it failed in the end, and left Villeneuve master of the situation.

We have to recollect that this operation differed in character from those carried on off Brest and other Atlantic ports of France, inasmuch as the blockade rested on a base 180 miles off—the base of the Madalena Islands, at the north point of Sardinia.

Nelson joined his fleet off Monte Christo on July 8th, 1803, and

spent sixteen continuous weeks, till the 31st October, watching Toulon. Then the fleet fell back to Madalena for ten days' rest and refit, frigates remaining on watch. From this date to the 19th January, 1805, there was an average interval of thirty-five days off Toulon to eight days at Madalena or Palma. In the year 1804 the fleet spent 306 days at sea, and yet Toulon was left practically open for two months out of the twelve. With a sailing fleet, retirement to a base 180 miles off must have been accepted as giving the escaping enemy three days' start at the very least, and it must have been known that the masking was thus abandoned.

It is hardly to be supposed that with a steam fleet resting on the same anchorage, the masking would ever be interrupted for a day. The whole fleet would never abandon the watch. The coaling, provisioning, and refitting would have taken place in the ships one by one. Madalena would have become a permanent depôt, where colliers, store, and ammunition transports, would have assembled in safety. A ship detached from the fleet off Toulon in the morning would have been at Madalena for certain next morning, and might very generally have sailed the same night after completion. The work of watching would have been monotonous, but never hard, even in bad weather. In fine weather, when there was no sign of a move—no lighting of fires—on the part of the enemy's ships in port, communication by boat between the ships of the blockading squadron would naturally be free; and free also would be communication with traders loaded with all kinds of refreshments for the crews.

Pressed by conditions which the invention of the steam-engine has removed, Nelson was compelled to trust mainly to chance for masking the French. If he had had more frigates he might have had more warning; but in no case could the retirement of the squadron 180 miles be considered a maintenance of the masking. And thus it turned out; for though by good fortune the "Active" and "Sea-horser" were able to report to Nelson at 3 P.M. on the 19th of January the sailing of the French on the day before, yet in that act of reporting all trace of the enemy was lost. They returned quietly to Toulon, but Nelson knew nothing of it for a month, which he had spent in chasing vaguely to the east end of the Mediterranean.

Again this arduous but broken and incomplete watch was set up; and again the withdrawal of the whole fleet to Pula Roads in the south of Sardinia left the coast free to Villeneuve. But this time the news of the departure of the French was four or five days' old before it reached Nelson, and it was a fortnight more before the true destination was known.

We are easily tempted to ask, when the masking of Villeneuve was of such transcendent importance, how it was that line-of-battle ships were not detached in assisting the chain of look-out frigates. Nelson had certainly the idea in his mind; and after the first sailing of the French he told off his two fastest line-of-battle ships, the "Spencer" and "Leviathan," to act as a detached squadron, and to separate from the order of the fleet. But this was going such a very short way towards doing what we should now, with our present know-

ledge and want of knowledge, consider a very obvious duty, that there must have been very strong reasons on the other side. And then, too, arises the question, why did not Nelson detach one ship at a time from Toulon to Madalena? The idea is the first which occurs to our mind when we think of blockade resting on a base at the present day; it is not possible that it should have escaped our forefathers' notice.

I can only suppose that it was the slow and uncertain powers of locomotion possessed by the line-of-battle ships which made the thing impossible. Nelson took his fleet across the Atlantic in chase of Villeneuve at the average rate of 3 knots only. The difference between the sailing powers of the frigate and the line-of-battle ship were certainly very marked, and it was perhaps a physical impossibility in most cases for a line-of-battle ship to safely watch an enemy's fleet which had frigates at command. So, too, the idea of detaching single ships to refit could not have been put in force on account of the extreme uncertainty of the period of absence. Some such strong reason there must have been; but no such reason applies to blockade under steam.

We need not go further into the history of blockade under sail. The teaching is very broad and very plain. It is that a base of some sort was always necessary for a blockading fleet, whether such base was Torbay for Brest, Madalena for Toulon, or Gibraltar and Tetuan for Cadiz. That such base is as necessary, but not more so, with steam; but then with steam, communication with it has become so rapid, so certain, and so secure, that none of the interruptions enforced by dependence on the wind will tell against the closeness of the watch.

Again, the closeness of the watch under steam will be in marked contrast to its looseness under sail.

It may be true, and no doubt is so in some cases, that the steam ship requires more frequent communication with the base than the sailing ship, on account of the exhaustion of her fuel supply. But the modern economies of coal have a tendency the other way, and in any case the consideration does not touch the argument. The experience of the Federals, as well as our own during the Russian War, point to the seizure and maintenance of bases as an essential part of steam blockade. The command of the sea with locomotion independent of wind has—if we are to go by experience—bred an audacity in this kind of thing which far surpasses our seizure of Corsica, Minorca, or Malta. It seems plain that wherever we want the convenience of anchorage and smooth water we shall take it, so long as we can make it safe on the land side. For the blockade of ports near our own shores we shall use our own ports, and where those do not suffice we shall be found begging, borrowing, or stealing others.

It is evident that if the masking or observing of the enemy's fleets in the days of sailing ships was necessarily as loose as we have seen it, the actual *sealing up* was practically abandoned as hopeless. So far as the enemy's cruisers and privateers went, attempts at *sealing up*, if made, were singularly ineffective. Lloyd's Lists,

quoted in the "Naval Chronicle" for 1807, give a loss of 4,314 British ships to the enemy by capture in the nine years from 1793 to 1800 inclusive, that is four captures in every three days, and showing a freedom for mischief on the part of the enemy of a remarkable character.

Captures in the Channel and close off all our coasts appear to have been accepted just as wrecks and collisions now are. The "Naval Chronicle" supplied monthly lists of them without remark, and side by side with the wrecks; and the prizes, if not met by our cruizers in the open sea, which was often the case, seemed to have no difficulty in getting into French and Dutch ports. The mere conception of such a blockade as the Federals instantly prepared to set up on the Confederate coasts does not seem to have reached our ancestors down to the last, and we can only suppose that the presence of steam prompted the suggestion in the one case, as its absence excluded it in the other.

It appears to me that whatever opinions may be expressed now, if we had a naval war we should follow the example of the Federals exactly, and I suppose we ought to succeed as well as they did, provided always we are wise enough to sacrifice everything for the command of the sea. I cannot contemplate in this paper a policy which should assume our failure in this respect, because to assume it is certainly to draw away the money which is necessary to maintain it. The policy of the fox with his hundred defences against the hounds, never commended itself to me so much as that of the melancholy cat, sadly admitting that it had but the one plan of running up a tree if the cry of the huntsman was heard. The issue of the fable should not, I think, be forgotten by us when we are tempted to sail near the wind in the matter of naval economies. For the lesson of experience and of history is plain. It was the command of the sea alone which gave the Federals their bases, and thus their powers of blockade. The loss of the command of the Mediterranean Sea compelled the abandonment of Elba, in 1797, which had, in succession to Corsica, become the base for our fleet. In the war between Chili and Peru, the former, though superior at sea, were obliged to abandon the important blockade of Iquique, because of the possible interference of the Peruvian "Huascar."

The Federals, determined to take and keep the command of the sea, very soon set up a blockade based on it, which it has been rightly said is without a parallel.

"The old traditional idea of a blockade," says Mr. J. R. Soley, in "The Blockade and the Cruizers," "maintained by a few large vessels moving up and down before a post at a distance, gave place to the entirely novel practice of anchoring a large number of small and haudy steamers in an exposed position close to the bar at the entrance of the blockaded harbours; and the boldness with which, after the first six months, men kept their vessels close in with the shore, and manfully rode out the gales at their anchors—a thing which sea-going men, as a rule, had regarded as impossible, and which would have appalled the stoutest captains of former times—showed as clearly as

the actual engagements the real stuff of which the Navy was made.

"As to the legal efficiency of the blockade after the first six months, there can be no question; and by the end of the second year its stringency was such that only specially adapted vessels could safely attempt to run it. . . . In the last year it became as nearly perfect as such an operation can be made. Taking its later development as a type, it is probable that no blockade has ever been maintained more effectually by any State; and it is certain that no State ever had such a blockade to maintain."

Be it recollected then the author is here speaking of sealing up; of operations which go very far beyond the masking or observing which would alone be vital to us in a state of naval war, and then everything vital to the safety of their own coasts was included in the sort of blockade which the Northern States undertook.

That the sealing up was not absolute is sometimes used as an argument that it was inefficient; and parallels are drawn adverse to our own blockading powers in naval war, which rest on that position. In some minds it would even seem that the escape of vast fleets in the days of sailing blockades was a better indication of what we may expect than the escape or entry of a small proportion of the flying blockade runners specially built for the service.

But surely it is certain that, setting aside for the present the effect of torpedo-boats, no squadron, not even a small one, could have evaded blockading squadrons, when the watch was so close that only a proportion of the attempts made by single ships were successful, and that these succeeded, not by escaping notice, but by running the gauntlet.

The opinion of the Wilmington blockading squadron was that one-third of the attempts to run the blockade out or in failed; and it was estimated that forty out of the sixty-six special blockade runners were captured or destroyed; but of course most of them had had more or less success before they ended their careers.

Captain Long in his paper has devoted a good deal of space to the attacks which were made on the outlying forts of the blockaded harbours, but although it be true that the possession of these forts was a very important element in absolutely completing the blockade, I do not think that anything of that sort comes within the scope of the present paper.

It seems to me that I ought to use only the actual blockading work of the Federals in order to form an opinion as to what our powers really are in this way, first considering steam alone; and then observing how far the advent of the torpedo-boat may modify the conclusions.

I think I may consider it established that the chief, if not the only, element in allowing the escape of our enemies' fleets and squadrons in the last naval war was the adverse action of the wind upon our own. We are now going to examine briefly whether the Federal experience in actual blockading work in 1861 to 1864 at all resembles ours at the close of last century. We are going to ask the Federals

in fact, as those most competent to tell us, whether the story we have heard that steam has bridged the Channel is a true one, or whether, so far as their experience is concerned, the fact is not just the other way?

As I have said, when the Federals pronounced for a blockade of 3,500 miles of coast, embracing 189 harbours and inlets, they had practically no advantages to start with except the initial command of the sea. It is difficult to doubt that the whole conduct and issues of the Civil War would have been entirely different had this command of the sea been seriously disputed. It does not appear impossible that had the arrival of the "Monitor" in Hampton Roads on the night of the 8th March, 1862, been delayed sufficiently to have allowed the "Merrimac" to complete her victories, the initial command of the sea, on which everything hung, might have been lost.

But having the initial command, the Federals proclaimed the blockade, and proceeded to the sealing up of every harbour, creek, and inlet leading into the Confederate territory. At first, as might be supposed, there was no particular plan. Ships were sent as they could be procured off the principal ports—Wilmington, Charleston, Savannah, Pensacola, Mobile, New Orleans, Sabine Pass, Galveston, &c. The command was originally divided into the Atlantic and the Gulf squadrons, but latterly when the blockading forces became numerous the Atlantic command was divided into two, the north and the south; and the Gulf command also into two, the east and the west. At first the blockade was a mere hovering off the ports by vessels which did not remain long and passed on elsewhere; but soon, as ships of all sorts, sizes, and shapes, sailing as well as steam, began to accumulate, regular systems were adopted—systems which appear to me to have rested on the idea of "sealing up," and which would not have been the same had the ideas been of "masking" or "observing;" though they obviously included both.

There was the old system of the in-shore and the off-shore squadron, with the difference that the in-shore squadron was the important one, and was continually pressed closer and closer in, while the outer squadron was spread over large areas as a sort of wide-meshed net to catch the fish which either had escaped or might escape through the other.

The in-shore squadron was sometimes at anchor and sometimes under way, according to the geographical and other conditions.

In the approaches to Charleston (Fig. 3) the in-shore squadron was in the first half of the war kept altogether outside the shoals, the off-shore squadron being beyond it. The Beach channel appears to have been the favourite one both for the entrance and the exit of the blockade runners. The attempts were always made at night, and there is no sign of much evasion in the matter. The ships appear to have been always seen, and always attacked both by the in-shore and out-shore squadrons; but they trusted to their speed and to their luck, and dashed through the in-shore squadron and out to the off-shore squadron, only being run ashore, rammed, boarded, or otherwise captured in a proportion of cases.

The in-shore squadron was generally forbidden to chase. If the ships could succeed in barring the progress of the blockade runner outwards, well and good; but if they missed the opportunity, they had to leave it to the off-shore squadron to chase. There was very little warning either way. The entering blockade runner might very often escape notice altogether of the off-shore squadron on dark nights, and if so she was amongst the in-shore squadron without any notice whatever. Issuing from the port, it was certain that very little warning would be given. There was no such complete and accurate system of night signals as the world now possesses, though it had been designed a year before the Civil War broke out. The rough appliances of rockets and blue lights, incompetent to do more than give general warnings, were the signals most in vogue. As the blockade-runner showed no lights, it was only the ships who were close to her that saw her at all, and mere general alarm signals from these ships were not of any use in directing the course of blockading ships at a distance, and there must have been a want of concert which a more accurate and complete system would have removed.

But, again, we must recall the fact that it was sealing up which was aimed at—actual blockade. It was not the defence of the Federal coasts or the Federal shipping which caused the assemblage of such numerous blockading squadrons; it was injury to the Confederate territory, the cutting off its supplies, and especially its supplies of contraband of war, that was the Federal object. It was the ingress, as much as, or perhaps more than, the egress which was to be checked. Hence a disposition of the ships blockading which might not have obtained had the object been the masking of war fleets, squadrons, or single ships. The concentration of a large in-shore squadron close to the entrances of harbours would not be the most obvious arrangement for observing or masking. The strength would be in the wrong place if these were the designs, because the blockade runner, whether ship, squadron, or fleet, had but to make the dash, and, if not stopped, would be free.

The plan which would suggest itself where egress and not ingress was to be checked, would be but a few of the smallest, lightest, and fastest vessels, with the most perfect signal appliances, close to the entrance to the harbour, and the fighting ships proper in an arc-like chain in the offing. It would be the duty of one of the light observing vessels to follow the escaping vessels seawards, continually informing the off-shore squadron of the whereabouts of the chase, in order that a sufficient force might be concentrated upon it.

We must, I think, never forget this double duty of preventing equally ingress and egress, which devolved upon the Federals, and we must put the question to ourselves whether, had egress alone been the thing to be stopped, there would have been even the proportion of exits which there were. Blockade, I may repeat, is a vital operation to us only so far as regards egress. If we can prevent war ships escaping outwards we should be disposed to encourage their escape inwards as so much off our hands.

But, as it was, blockade running at every one of the Confederate

ports became gradually impossible, 'except to specially built and prepared vessels. Some of these undoubtedly had wonderful success, which may easily support the arguments of those who say that the days of blockade are over. The late Hobart Pacha made six successful voyages to Wilmington in the "Don," but she was captured directly he left her. The "E. R. Lee," under the command of a Confederate Officer who had been in the United States Navy, actually ran the blockade twenty-one times in ten months.

On the other hand, we read of the "Nashville" lying for eight months in the Ogeechee river blockaded by three gunboats, and utterly unable even to make an attempt to escape.

As I used the escapes of large fleets and squadrons in the days of sailing ships to illustrate the looseness of blockades, so I may usefully illustrate the closeness of a steam blockade by one or two of the most striking escapes of single ships.

One of the most daring was that of the "Sumter" from the Mississippi on 30th June, 1861 (Fig. 4). She was blockaded in Pass à Loutre by the "Brooklyn" and "Powhattan," off its mouth, but owing to the double duty which was thrown on these ships of guarding ingress as well as egress on this particular day "Powhattan" was absent, and "Brooklyn" was in chase of a sail to seaward. "Sumter" seized his opportunity in broad daylight, and crossed the bar of the pass when the "Brooklyn" was $3\frac{1}{2}$ or 4 miles from it. She was reported to have 13 knots speed, while "Sumter" could only get between 9 and 10 knots. The "Brooklyn" instantly made for the "Sumter," and it very soon became a stern chase, both being under sail and steam; but the "Sumter" lying closer to the wind was able to compel the "Brooklyn" to furl her squaresails, and so to gain upon her. The "Brooklyn" soon gave up the chase, and was never near enough to open fire on the Confederate ship.

On another occasion, but this time in darkness, the "Sumter" evaded the blockade of a single ship. She found herself in the open Bay of St. Pierre, with her stern tied up to the shore, and blockaded by the Federal ship "Iroquois." St. Pierre being a neutral port, the "Iroquois" could not attempt a really close blockade, but she made arrangements with a merchant schooner to display certain signals to her in the event of the "Sumter" making a move in the night. Captain Semmes thought that these signals would be two only, denoting that the "Sumter" was off to the northward, or was off to the southward. In this belief the "Sumter" slipped her hawsers and made off to the southward under the land. Those on board her saw the schooner show two red lights, which they took to be a signal that they were off to the southward; they could also make out the "Iroquois" with their night glasses, but in the shadow of the mountains as they were, they rightly assumed their own invisibility. As soon as they were assured that the "Iroquois" was off full speed to the south, the "Sumter" turned round and made off full speed to the north, and got away without being chased.

The "Alabama" performed the same feat under the same commander a year later. This time it was from Fort de France, Marti-

nique, the blockading ship was the "San Jacinto," which Semmes contemptuously calls an "old wagon." The night chosen was dark and raining, and the "Alabama" merely trusted to her luck, and ran out under a full head of steam by the most southern route without catching even a glimpse of the "San Jacinto."

The double achievement of the "Florida" in breaking the blockade inwards and outwards at Mobile has attained a just celebrity. She was only half fitted and half manned; it was an absolute necessity that she should get into a Confederate port for completion, and Mobile was chosen. This was in September, 1862, and the ship was then at Cardenas in Cuba. The force blockading Mobile consisted of the "Oneida" and five gunboats, but at this particular time all were absent but the "Oneida" and the "Winona" gunboat. One of the gunboats had gone to take post off one of the Mississippi mouths which was left unguarded, and three others were away for repairs or coal. The frigate "Susquehanna" had been off the port, but she, too, was away for repairs at Pensacola.

The "Florida" approached under English colours in daylight, and the "Oneida," not expecting a ruse, and supposing her to be an English man-of-war intending to ask permission to enter the port, steamed out to her. The "Florida" simply took no notice; profited by the momentary hesitation of the "Oneida," and passed on at full speed. The "Oneida" was not long in opening fire, and planted several shot and shell in the hull of the "Florida," to which the latter made no reply, and she escaped across the bar, if not in safety, at least without fatal damage. Captain Moffit of the "Florida" was of opinion that had the "Oneida's" guns been better laid she would have ended her career there and then.

This plucky commander made his escape through a blockading fleet of seven ships four months later, choosing a dark night and a northerly wind; she made out the blockading ships before darkness came on, when she moved down to the bar. They, too, saw her, but seem to have made very incomplete arrangements to intercept her. The "Oneida" remained at anchor and did not even weigh when the flagship, the "Susquehanna," made the signal for a blockade runner. Another ship, owing to certain formalities enforced on board her, did not slip till half an hour had elapsed. Only one ship, the "Cuyler," really gave chase, and she followed up for the rest of the night and the whole of next day. But the "Florida" evaded her the second night, and was safely engaged in burning Federal vessels the second day.

The risks that these and other single vessels ran in making these escapes; the numbers that failed; the inefficient and temporary character of so many of the blockaders; all seem to show that it was much easier for whole fleets to escape to sea in the days of sail than for single ships in the days of steam. It may now be held, on the strength of the great American experiment, that it is as difficult, but not more so, to prevent the exit of single ships in the days of steam as it was to prevent the issue of vast fleets in the days of sail.

I have been anxious to get the question clear for argument as to the

influence of steam alone on the question of blockade. Having done so—as far as the limits of time will allow—we must add to the question as it stands the influence of the torpedo-boat. That being, so far as I can see, the only change in the “conditions of warfare” as affecting all natures of blockade since the termination of the American Civil War.

It is constantly held that owing to the absence of interior naval force in the ports blockaded by the Federals, they were able to take a position and to do things which would have been impossible had there been such force. I can grant that had the Confederates been in any way able to dispute the command of the sea with the Federals, the whole programme of the latter would have been upset, but the facts are against the theory that the Federals were not liable to attack issuing from the blockaded ports. They were very generally liable; they were often attacked from within, and sometimes were beaten off. Yet the command of the sea made an unfavourable issue of these combats of minor importance. The only one where the issues were really critical was the attack by the “Merrimac,” of which I have already spoken.

In March, 1862, the Elizabeth and the James rivers were blockaded by the following Federal ships lying in Hampton Roads:—The “Congress” and the “Cumberland,” sailing frigates, were lying at anchor at the mouth of the James river; the “Roanoake” and “Minnesota,” screw frigates, lay further down towards the sea; there, too, was the “St. Lawrence,” a sailing frigate like the “Cumberland.” The “Roanoake,” though a steamer, was disabled in her machinery, and was unable to move except by the assistance of tugs. It was known to all these ships that up the Elizabeth river, at Norfolk, the Confederates had nearly completed turning a sister vessel to the “Minnesota”—the “Merrimac”—into a river-service ironclad. They knew also that there were steam gunboats up the James and Elizabeth rivers, and they expected an attack with the object of raising the blockade of the roads and rivers.

On the 8th of March the “Merrimac,” accompanied by two gunboats, came out of the Elizabeth river and proceeded to the attack of the “Congress” and “Cumberland;” three gunboats came out of the James river to assist. The “Minnesota,” under her own steam, got under weigh to repel the “Merrimac’s” attack, but soon ran ashore in such a position that the “Merrimac” could not get within a mile of her. The “Roanoake” also weighed, and was presently towed ashore by her tugs. There she helplessly watched the “Merrimac’s” destructive powers, and, being at length got afloat, dropped down to her old position. As she was dropping down, the “St. Lawrence” was being towed up to the attack of the “Merrimac,” but she also presently went ashore, and took no effective part in the day’s proceedings.

The “Merrimac” and her consort gunboats went straight up to the “Cumberland.” She fired into her, rammed her, and sank her in a very short time. While she was thus destroying her, the gunboats opened so heavy a fire on the “Congress” that she was fain to make

sail and run ashore, where she was afterwards burnt by the "Merrimac's" shells. On the approach of darkness the "Merrimac," satisfied with her day's work, withdrew to her own side of the river. She felt herself in command of the sea and of the situation, and designed to complete the work next day at her leisure.

But from the sea, at 9 o'clock that night arrived the "Monitor," the Federal answer to the "Merrimac"; and when next morning she got under way to settle the business with the "Minnesota," still on shore, she found beside her a little new-fashioned engine of war with scales as hard as her own, and with guns whose shot, though they could not penetrate, were at least able to break up her plating. The "Monitor" was, in fact, able to cover the "Minnesota," owing to the shallow water in which the latter lay, and in the result the "Merrimac" withdrew to Norfolk without having added at all to her victory of the day before. The Confederates had lost the command of the sea and had failed to raise the blockade.

In April, 1864, the squadron blockading the Roanoke river knew that they might expect an attack from the "Albemarle," an ironclad which the Confederates had constructed up the river. The Federal force was only two small steamers carrying each a rifled 100-pr. and five or six 9-in. smooth-bores, and two tugs. On the 18th of April the "Albemarle" came down the river by night, made straight for one of the Federal ships—the "Southfield"—rammed her and sank her, the crew escaping to the other which was alongside her. This ship, the "Miami," and the tugs then disappeared beaten, down the river, but remained at its mouth, while the "Albemarle" lay alongside the wharf at Plymouth.

The squadron off the mouth was reinforced by three more powerful steamers, and, on the 5th of May, the "Albemarle" came down and fought an indecisive action with the whole of them, which, being without distinct advantage to her, left things as they were. As is well known, she was a few months later destroyed by Cushing with a spar torpedo, while she lay alongside the wharf miles up the river at Plymouth.

A bold attempt to break up the blockade at Charleston was made in January, 1863. Two ironclad rams which had been prepared inside the harbour—the "Chicora" and the "Palmetto State"—taking advantage of a thick haze, crossed the bar, and boldly approached the numerous vessels—ten or more—outside, which were spread over an arc five or six miles in length. In a very short time the Federals, "Mercedita" and "Keystone State," had hauled down their colours. They were on fire and leaking, while the rams were uninjured, but not being taken possession of, were recovered by the Federals. The fight lasted from 5 till half-past 7 in the morning, and then the rams returned into port.

The "Atlanta" was an ironclad converted from her old service of blockade runner by the Confederates at Wilmington. In June, 1863, the "Monitor," "Weehawken," and "Valiant," had knowledge that they would be attacked by the "Atlanta," and on the 17th they advanced to meet her as she came down the river. The whole thing

was over in a few minutes. The "Weehawken" fired five shots from her 11-inch and 15-inch guns; four of them struck the "Atlanta" and did her such damage that she immediately hauled down her colours.

The blockading squadron at the head of the passes in the Mississippi (Fig. 4), consisting of two sailing sloops, a steam sloop, and a paddle steamer, were driven down the passes on the 12th October, 1861, by the ram "Manassas," escorting fire rafts. Not much damage was done by either, but it was not considered feasible to maintain the position, and the blockade was in consequence partially raised.

Galveston had been taken possession of by the Federals, and became the base of the blockading squadron. In December, 1862, they were led to expect a combined attack by Confederate ships and troops. The former were two river steamers armoured with cotton bales. They captured the "Harriet Lane," and the "Westfield" was abandoned and blown up. Galveston fell again into the hands of the Federals, and the blockade was raised.

From this brief review it appears that the presence of the blockading forces was nearly everywhere contested from the inside; and that though it may be true that neither of the combatant forces were on a large or efficient scale, yet proportionately, the Confederate efforts were never to be despised, and often they were critically near success. What they wanted and never had was the power of attack from the sea, and it is obvious that, as I have already remarked, even a temporary power of that sort might have changed the whole face of the war.

If the naval forces of England should have to engage in blockading operations against a naval Power, they would in the first instance be liable to the attacks similar to those which the Federals experienced. But undoubtedly the particular force which promises to interfere most with blockaders is that of torpedo-boats, I must not say torpedo-vessels, for if torpedo-vessels are to take a large place in war, they will take it in the open sea, and as the equals of any other form of open sea naval force. That is to say, they will be the rivals of the fleet ship as at present developed, and aim themselves at becoming the fleet-ships of the future, as claimed by M. Gabriel Charmes. But the torpedo-boat does not in any way claim to take the place of the fleet ship. It tends to operate outwards from the land, and not inwards from the sea. It is more a prospective terror than an open match for the ironclad; and its cheapness combined with its assumed destructive powers makes it especially the weapon proposed for the driving off of masking or observing forces in the operations of blockade.

It is, as I have said, not uncommon to hear naval Officers—and some of the best informed—express the opinion that the torpedo-boat has made blockade a thing of the past. I do not think a calm well-reasoned judgment can accept this view. It is almost obvious, however, that if the Confederate ports had swarmed with torpedo-boats, the in-shore squadrons could not have been safely so numerous, nor could they have pressed in so closely nor so perseveringly.

But I have endeavoured to show that we may be misled by the American experience. To us the sealing up of the enemies' ports can rarely be the object. It was for America part of the "Anaconda" policy—a policy resting on the power of almost entirely surrounding the enemy with an impenetrable wall. We are not in a position to attempt such a thing with any country, and consequently our blockade will seldom extend beyond masking and observing—to measures of defence not of attack.

What are the necessities of this policy? Not surely large in-shore squadrons? A single observing ship close in to the port, designed to evade the most modern forms of attack, and with her signalling powers developed to the utmost, is all that is necessary for all purposes of observing, when she is in communication with the real force off shore. We see the bases of such observing ships in the new "torpedo catchers." They will have a speed which makes the actual attack of torpedo-boats remote; they will have a draught of water, not only enabling them to press into the shallows about the port, but rendering the chances of a blow from the locomotive torpedo uncertain. Three or four of such vessels forming an in-shore squadron, always closing in and lying quiet at night, and drawing off as daylight breaks in the morning, would keep quite as close a watch on the egress of the enemy as the numerous vessels of the Federals were able to do. They would naturally be powerless to prevent ingress, but as I have said, that would be immaterial to us. In the case of vessels or squadrons attempting to escape by night, it would be less the duty of these ships to engage them, than to hang on their flanks and continually report their movements by signal to the off-shore squadron, which would detach and concentrate sufficient force to intercept the runaways.

If the in-shore observers were attacked either by like forces, or such as might be supposed superior, they would either fight them or draw them off, taking care however that some of their number should evade action for the purpose of keeping up the watch. No doubt the work of these observers would require all the skill, daring, and perseverance that the Navy has always been accustomed to show, but it would not be of the harassing character which those of the Federal in-shore squadrons was. And this, simply because they would be relieved of the anxieties due to watching ingress. There would be gallant fights, there would be reputations lost and won, but I am persuaded that the watch would be maintained. The experiments at Bantry and the North of Ireland were not such as to discourage us. Nor is there anything in Federal or Confederate experience against us. It may be true that dark misty nights will favour the enterprise of escape; but they will also favour the closer and more intimate watch. The same veil which tends to hide the blockade runner outwards, tends to hide the observer of his movements.

But those who think that the torpedo-boat has destroyed the powers of blockade—that is, of masking and observing—think more of the fighting force—of the off-shore squadron—than of these specially prepared watchers.

But here we want to recall that all questions of attack and defence are matters not of dramatic romance but of common sense and reason. The Fleet proper need not expect every kind of attack without notice. If its watchers fail to keep it warned, there is practically only the torpedo-boat attack which can be delivered as a surprise. In this attack, the net defence, though perhaps not a perfect one, is yet a considerable safeguard. I know of no reason why this net defence should not be trusted to at night and in all ordinary moderate weather. I do not know why the ships of the fleet cannot be maintained in such a fair approach to order, with their engines occasionally moving, and their nets down, as may not make a surprise by torpedo-boats a thing to be less feared—even if our commanders did not go so far as Hobart Pacha in their contempt for this form of naval warfare.

A hostile fleet can hardly drop from the clouds on a blockading fleet so situated, but were such a thing to happen, drill should make the passage from the condition of waiting torpedo-boat attack to bristling with life and movement on the approach of a fleet, a very rapid one.

Very bad weather, or even bad weather, is of itself a security against torpedo-boat attack.

And then we have to recollect that for the blockaded enemy all attack is a matter of reflection and reason. He will not deliver it in any form against any part of the blockading forces unless there is at least a chance of success. No doubt his efforts against the in-shore observers will be more or less incessant—when he can find them. But I take it that the escapes of the "Sumter" and "Alabama," which I have narrated, tend to remind us that small vessels designed to be hidden are not always immediately discoverable. The chances, in fact, are even for both sides. If the weather is clear, the watchers can keep their watch at greater distances. If it is thick, they can close in with the less chance of being discovered. Clear weather and thick weather do not assist or hinder one side more than the other.

And it is so with the off-shore fleet. A torpedo-boat flotilla will not quit the harbour for the attack unless there be some reasonable hope of finding the off-shore fleet, and this need not disclose itself except in answering the signals of the in-shore observers. But this disclosure presupposes warning, and is so much against the hopes of the torpedo-boat flotilla.

These are the general reflections which my historical examination of this most momentous question has called up in my mind. They are, if well founded, very encouraging, but my whole paper seems but to utter but a single warning. Keep the command of the sea as you value the national life. With it you can do everything. Without it you will speedily be blotted out from the list of great countries.

The CHAIRMAN (Sir Cooper Key) : We shall be very glad to hear any gentleman who wishes to criticize or to make any remarks on any part of Admiral Colomb's valuable paper. I see several Torpedo Officers here; I am sure they would like to stand up and endeavour to prove that Admiral Colomb is quite wrong.

Admiral Sir E. FANSHAWE: In order to set the discussion going, I should like to express my humble opinion that so far from Admiral Colomb being wrong, I think he is very right in adopting an historical basis in reasoning upon questions of future naval war, duly taking into consideration the alterations and modifications which have been made in naval warfare by recent applications of science. I cannot conceive any other sound and proper basis for reasoning upon warlike operations than the fundamental principles upon which war at all times, in all ages, and under all circumstances, has been conducted. I therefore think that Admiral Colomb has adopted a sound and good basis in founding his lecture solely upon history. The lessons he has deduced from the individual cases he quotes appeared to me, on reading this paper, to be extremely well applied, and the cases themselves well chosen. I make these few observations with a view of starting the discussion, but certainly not of criticizing any point that Admiral Colomb has made, being very much inclined to concur in his arguments and adopt his conclusions, speaking generally, as being sound and true.

Rear-Adm. the Hon. E. R. FREMANTLE, C.B.: I entirely agree with the Chairman that it is the business of Torpedo Officers to take up these questions, and to say what can be said as to the difficulties of carrying out a blockade with torpedo-boats inside. As a general rule I do entirely agree with all that has fallen from the able lecturer on this subject, and certainly, as has been so well said by Admiral Fanshawe, that the historical basis is unquestionably the right one to adopt. It is worth while at the risk of repetition to say that, because we know that there is a very large body of naval Officers who hold the idea, which I think is an erroneous one, that nothing can be based upon the experience of former naval wars. I wish, however, to be bold enough to a certain extent to criticize the lecture. I regret certainly that in treating of blockade the lecturer has not followed up his subject of "convoys" by treating of the civil blockade, for there is a great deal to be learned from that; but I agree that it is scarcely possible to treat both civil and military blockade in one lecture. I certainly should have preferred at this moment that following up his previous lecture he should have treated of civil blockades, because there is a great deal to be said about it, and a great deal which I think might be added on questions of convoy and blockade to what fell from the numerous gentlemen who spoke on the lecture to which I am referring. That, however, is not the subject before us. In treating of a military blockade solely as a question of preventing egress, I think the lecturer has fallen into a slight mistake. I am sure that he will admit in the illustration he gave, that of Admiral Colpoys cruising off Brest and of Admiral Richery joining the Brest fleet, it would have been a very important part of Admiral Colpoys' duty, and I do not think he would have thought differently, to have intercepted, if he could, that junction of Admiral Richery's with the Brest fleet. No doubt the junction had been arranged so as to command the British Channel, and, therefore, for the blockading squadron to succeed in preventing the ingress of ships was quite as important as their arresting the egress of ships. On the question of military blockade, as I said before, I am in entire agreement with the lecturer. I recollect reading in M. Gabriel Charrier's works, quoted by the lecturer, how he drew a clever picture, making it almost convincing to everybody who read his works on the subject, of an ironclad with steam up to the highest point, boilers at full measure, employed in blockading. He showed how impossible it would be to be always prepared, and how they would probably find when the torpedo-boats came out that the boilers were out of order, and how, notwithstanding the greatest care on their part and all the efforts that they might make, they would not be able to get their full steam up at the moment it was wanted. That was an extremely graphic picture, but it certainly did not represent naval war or blockade. In going to history the lecturer has shown us very plainly where we shall find one fact on this subject. There was then and there certainly will be in future an in-shore squadron and an out-shore squadron. He might perhaps have spoken a little more of the Berchaven operations, where we know we had an in-shore squadron, with torpedo-boats and small vessels, and an out-shore squadron. I believe myself that the torpedo-boat in-shore squadrons will be a very important part of future blockades in fine weather; in bad weather they may be eliminated altogether from consideration, and then we shall come to the question as

it has been put by the lecturer. I believe, however, that in fine weather we shall find torpedo-boats playing a great part. No allusion has also been made to our recent history of blockade in the Greek waters. It has been published confidentially, and I have had the advantage, which perhaps has not been enjoyed by every Officer, of reading the able report of His Royal Highness the Duke of Edinburgh on that point. It is not for me to say exactly what those conclusions are, nor to divulge what has been issued confidentially by the Admiralty, except that in that case the torpedo-boats were used principally to prevent both ingress and egress, and they were used by the blockaders and not the blockaded. Having said that much, I do not in the least deny the great strength that the torpedo-boat, as it exists, gives to the defence, and should there be a certain number of these boats inside a port doing their best to prevent the blockaders effecting their purpose, it will be extremely annoying and dangerous under certain circumstances. Still they will be met by their equals, and all considerations which are based upon one side or the other having the advantage are in my opinion far fetched and impracticable. I am sure we have had a very able lecture, but that indeed we may always depend upon when Admiral Colomb is the lecturer. I can only regret that there are not more people here to-day to add their quota of thought and admiration as to the way in which this subject has been treated. I am quite sure of this, however, that everyone will read it when it is printed in the Journal, although they cannot now be present to discuss it.¹

Commander CAMPBELL: I rise, not so much to discuss the paper, as to try and accentuate one or two points with which I particularly agree. It is clear that Admiral Colomb has added another chapter to the many brilliant achievements that he has at all times made in this theatre, in the many papers which he has read, and which to us young Officers I may say have been invaluable. In the first place Admiral Colomb's nomenclature suggested itself to me as being so good, the terms he uses for describing the operations of blockading, masking, and observing. I am sure that whenever thinking over the question of "blockade" we shall always find those terms most useful. I do not quite agree with Admiral Colomb as to the "great number of naval Officers who hold the opinion that it is worse than useless to go back to naval history for the lessons of modern naval war," because I believe that the number of Officers is increasing very rapidly who place a high value on historical retrospect. I will, however, go further than the two speakers who have preceded me, and say that you cannot obtain one glimpse of the future except through the medium of a reflected past. You are at a dead loss without history in naval prediction. Ship-building is a matter of naval prediction altogether based on historical retrospect. You are obliged to be a predictor, but if you have no data upon which to regulate your predietometer, I do not know how you are to predict with accuracy at all. I cannot pass without comment the tactics of the cat and the fox mentioned by the lecturer. That one plan of the cat commends itself to me, and will be used by the blockaded fleet as long as they remain inside; but if they, or any portion of them, attempt to come out they will assuredly use the hundred dodges of the fox in order to escape the watchful huntsman and his hounds. Admiral Colomb winds up by saying that we must have command of the sea! I

¹ I should like to add more decidedly my opinion, confirming as I understand that of the lecturer, that blockades are not only possible now, but far more practicable than in former days. The argument is that fast steamers and torpedo-boats inside render blockades difficult if not impossible. It might similarly be argued theoretically with regard to military operations that to surround an army armed with modern long-range weapons was an impossibility, and I have a strong opinion that had no wars arisen to prove the fallacy of such views, this would have been the prevailing notion. We have proof on the contrary that improved weapons have given increased power to the stronger side to hem in an enemy, and so clearly has this been shown to be the case that though Mack's surrender of 36,000 Austrians at Ulm in 1805 has been held by historians to be discreditabie to that Officer, the surrender of three times that number at Sedan by Napoleon III and De Wimpffen in 1870 has generally been accepted as inevitable under the circumstances.—E. R. F.

cannot tell you how fully I agree with him there, but the question we have to discuss must be how we are to maintain that. No doubt it will be by blockading, by cruisers destroying the enemy's trade, by watching his ports, but if what we hear is true from the report of a very able Admiral on the other side of the water, we shall find that in future they would rather come out and attack our force than stop in and be blockaded by our fleet. That naval Officer reported to his Ministers that he would not be afraid to meet the enemies of his country at sea after the great operations he had gone through, even, as he said, if he met the vessels of that nation which had the reputation of being the most powerful on the seas. I can only say I believe our naval Officers would be very glad if that Officer carried out his words; it would perhaps save us the trouble and hard labour of blockading in the future, for evidently it must be incessant hard work day and night, and it would give our Admirals and Captains some exhilarating moments, and our Commanders and Lieutenants a flow of promotion in keeping with the rapidity of the times in which we live. I am sure we must all thank Admiral Colomb for his very able paper.

Captain WILSON, R.N.: It is really hardly fair to criticize a lecture of this kind without carefully considering it beforehand. I had no idea, when I came here, what line Admiral Colomb would take, and not having seen the paper previously, one is not prepared to meet his arguments right off. I can only suggest one or two things. I think in his quoting the case of the Federals against the Confederates, the American Civil War, he has greatly underrated the enormous preponderance that the Federals had over the Confederates. You could hardly consider the Confederate naval force as any force at all. When we come to deal with any European Power which has a navy at all, we cannot count on anything at all proportionate to such tremendous preponderance as they had. Another point I think he has overlooked in his lecture is the immense advantage the blockaded has in selecting his time and place to begin his attack. If the blockaded has any power at all, he can concentrate that power, whatever it is, on any portion of the cordon that the enemy is forming round his port. His attempt to escape would be made during the night, and I do not think it would be so difficult to get out as Captain Colomb supposes. Captain Colomb, rather inconsistently in one case, pointed out the difficulty of the enemy getting out, and shortly afterwards he pointed out the great doubt there was whether the torpedo-boats would find the enemy if they came out to attack him. If you go out and do not find the enemy you are clear, and your object is gained. The attack of the blockade would generally be made solely with the object of forcing his way out. If I was blockaded in a port with one or two cruisers that I wanted to get to sea to prey on an enemy's commerce, the natural way of forcing my way out would be to make a rush for the weakest point with my cruisers that meant to get out and use whatever torpedo-boats I had to make an attack at the same time. If the enemy does not discover you, your cruisers get to sea; if he does discover you he must give chase, and while he is in chase is the very best chance for the torpedo-boats to make their attack. In the first place, they see a large ship much better than they are seen; then they can choose their time when he is perhaps just gaining on the escaping ships and rush down with the advantage of their own speed added to that of the enemy approaching. There is no safer way to attack than to attack from ahead when the enemy is steaming at high speed. As to the use of torpedo-boats in the blockading squadron, it must entirely depend on the distance of their base of operations. I should not suppose our present boats are capable of keeping the sea for any considerable length of time without the means of going to a neighbouring port pretty often, and at an enemy's port distant from our own coasts, you may consider that the blockading squadron won't get torpedo-boats except on rare occasions. They will have of course the torpedo cruisers and perhaps second-class torpedo-boats. Another point is the great difficulty the squadron lying off the port has in keeping steam ready for the high speed that vessels inside the port can maintain. A vessel coming out of port chooses her own time to come out with her fires cleaned and a full head of steam ready, while vessels outside will get their fires dirty whatever precautions they take. Their fires being banked for a long time they will be getting very low, and they will not have steam up for an hour or two after they try to get up full

speed. Therefore the escaping vessel always has an advantage. The conclusion I should arrive at is that a blockade is still possible, but that the preponderance of force on the part of the blockader must be enormous if it is to be so complete as to prevent cruisers getting to sea. The true time to catch cruisers is not when they are coming out of an enemy's port, but to lay off the ports where they are obliged to go to on purpose to coal, and capture them when they are returning.

Rear-Admiral COLOMB : I am very much obliged to the different speakers for the commendation they have given to the paper, and I am glad to find so much more agreement with me than I expected to have found. I augur well for the Navy that there should be that agreement, because I feel that what we have been talking about to-day must be our chief duty in any coming naval war. Admiral Fremantle seemed to think I had not laid stress enough upon the necessity of preventing ingress as well as egress. My point would have been in the instance that he brought forward—my own instance of Richery escaping from Rochefort—that Richery would not have escaped from Rochefort, because Sir Richard Curtis would not have gone to England with his squadron. Of course if some fleets are to be left unguarded and squadrons are to be loose about the sea, that gives that partial command of the sea which I think we ought not to admit. I do not mean to say it might not happen sometimes that a squadron would escape, but what I meant was generally speaking the ingress is a thing that we need not trouble ourselves much about. I quite agree with Admiral Fremantle when he speaks of the possibility in fine weather of torpedo-boats doing a good deal of watching in-shore in certain conditions and ports. It would be so no doubt, as in the instance he brought forward of the Greek blockade. He spoke of M. Gabriel Charmes. M. Gabriel Charmes is, I believe, an uncertain guide, because he resolutely objects to history of any kind. He brings instances forward and so on, but he never seems to miss an opportunity of saying that you must not think of anything that has gone past, you must simply look to the future, and you must draw the material for looking to the future from somewhere up in the sky, and not from anything on earth. Captain Campbell rather heaped coals of fire on my head, because I was more hostile in my criticism of his paper than he has been of mine, but I will say *tu quoque* to him in the matter of nomenclature, as I am certain I shall never forget his phrase, "that the carrying of masts and sails is sinful." We owe that phrase to him. I think also that I shall always recollect the phrase, "predictometer," therefore I think I may simply say that I have turned the tables upon him. The real criticism of course comes from the man most able to give it, but I do not think it has quite converted me on the question of the attack by torpedo-boats of blockading squadrons, and of what blockading squadrons would do to avoid it. He speaks of the enemy making attacks on the weakest part of your squadron, but from my point of view it is impossible for him to say what is your weakest point, because I do not think you would ever keep more than a very few light ships close in. You would be continually changing those ships, they would do nothing whatever but just watch, they would keep as close in as possible, and would not be fighting ships in any sense of the word. They would be able to show fight against ships of their own class, but they would run for it if attacked by a superior force, and therefore the blockaded force would have no means of ascertaining where your weak point was.

Captain WILSON : What I meant was that you would study the habits of the blockaders, and in that way find out their weak point.

Admiral COLOMB : I do not think you could ever learn what his habits were, because all that you would generally see of him would be the two or three observing vessels that would keep close in. Their duty would be simply to watch and report by signal; that report would be carried on by one or more intercepting vessels two or three miles off, according to the geographical conditions of the harbour. Your fighting force would seldom be seen, so as to make it as difficult as possible for the torpedo-boats to know where to go to when they got out of harbour. There would be an immense arc over which your fighting force might be, so that I do not think your enemy would ever know where your weak point was. There is a matter which we do require to think of very carefully, and that is the point which Captain Wilson brings forward as to the efficiency of ships blockading, with regard to the state of their fires. The observing ships close in would

have continually, one at a time, to be running in and out and to keep steam going, and one or two of the ships of the real fighting force that might be called on to chase would also be kept running up and down during the darkest hours at any rate, so as to have their fires in good order. It would, however, be impossible for the whole fleet, whether the in-shore or the out-shore squadron, to do that, but some arrangement would have to be made, because unquestionably the great difficulty of preventing a rush would be the state of the fires of the ships which had them more or less banked. I want to say this, the point of my paper as I understand it is, that the whole of your naval and military policy, so far as the defence of the United Kingdom is concerned, depends entirely upon this question of blockade. The whole of the vast sums you spend upon your army, fortifications, and the different arrangements for the defence of the United Kingdom depend entirely upon whether or no you can maintain sufficient force off the enemy's port to prevent his getting out without being fought. That being so it is singular that so little attention has been paid to what I have endeavoured to bring before you to-day. It is expected almost everywhere that we are to have hundreds of thousands of men thrown upon our shores. They are to turn up in Sussex, or round London, and in all directions. They could not possibly do it unless there were large fleets to support them, and yet we never seem to consider for one moment whether those large fleets can be kept in their own ports and prevented from coming out to support the army. When you omit to consider the primary question of the possibilities of blockade you run into inevitable and enormous expenses to which there is no check and no possibility of curtailment, because the question of your army simply rests, as it does in the minds of many military men at this present moment, upon the number of men in arms in Europe: and until we have got a force equal to the whole of Europe in arms on our own land the military necessity will never be satisfied, but it would be satisfied if once the Navy can say quite distinctly, "Give us so much force and we will guarantee that the enemy's fleets, whatever may be the case with cruisers, will not find their way out." That reminds me of one point that I did not reply to Captain Wilson upon. I admit the escape of cruisers; I say the Federal experience shows us that we cannot keep them in. Properly fitted cruisers will get out, but fleets, squadrons such as we profess to be afraid of, and such as are absolutely necessary to the invasion of this country, may, as my paper will go to show, be absolutely prevented from escaping, provided only that we have a reasonably large naval force armed and prepared for the clear duty which lies before it.

The CHAIBMAN: If I had wished to criticize this very able and intelligent paper I am in a very comfortable position for doing so, because I do not intend to give Admiral Colomb the opportunity of answering. I really have so little to criticize in it that I shall certainly avoid doing so. He commenced with throwing a little doubt on the opinions expressed by the Royal Commission of which I had the honour to be a member in 1859-60, as we had stated in our Report that it appeared an efficient blockade would be almost impossible in future on account of the introduction of steam. It is twenty-seven years since we sent in that Report, and I think I may say that the blockade to which the Commission referred was a commercial, not a military blockade. I rather object to the word "civil," as in any circumstances it is about the most uncivil thing you can inflict on an enemy. I think "commercial" blockade is a better term, I may say that a commercial blockade or the sealing of a port is the most important of all blockades: it includes masking and the blockade of observation. If you can seal the port completely against egress or ingress you include the other blockades that Admiral Colomb has referred to. Twenty-seven years ago I certainly had an idea not only that an efficient blockade could not be maintained in consequence of the ease with which steamers could escape, but it seemed to me very difficult to blockade at all, and I think it was the opinion of a great many naval Officers at that time. I must confess that this paper of Admiral Colomb's being founded on history and actual experience of facts concerning the manner in which blockades have been carried out, or attempted to be carried out in times past by sailing vessels, and which have failed in so many instances, convinces me that a blockade in the present day can be carried out with *almost* the same certainty as it could be in former days, but I have

a strong opinion still that the introduction of steam and the use of torpedo-boats in modern warfare is *of more advantage to the blockaded port than to the blockader*, and that is as much as we can say with certainty. The blockaded ships will be able to take advantage of their clean furnaces and boilers, their clean bottoms, full supply of coal, and their torpedo-boats of greater speed, which will give them an advantage over the blockading squadron. Thus the advantage would be on the side of the blockaded. I fully endorse the few words with which Admiral Colomb concluded his paper, and say that if you wish to ensure the national safety you must keep the command of the sea. There is no question about it, we must keep command of the sea. But however strong we may be at sea by the increase of our fleets, you never can expect the Army or those responsible for the defence of the country to give up fortification of important ports or troops to resist a landing; it is impossible to do that, because there are the contingencies of a dark night and bad weather, under cover of which a blockading squadron may dash through your fleet without your knowing which way it was going. In the old days of sailing ships you knew from the direction of the wind to a great extent which course the ships would probably take and could chase accordingly, but at the present day if a large steam squadron were to get out they may divide and you won't know in what direction they go. Therefore, although I hope we shall insist upon keeping the command of the sea in its fullest sense to meet any Powers likely to be brought against us, we must have our forces at home as well, and fortify our naval ports. I will now ask you to allow me to give your thanks to Admiral Colomb for his most useful and interesting paper.

PLANS OF MOORINGS PROTECTED BY NETTING AGAINST TORPEDO ATTACK, TO BE UTILIZED MORE ESPECIALLY BY A BLOCKADING SQUADRON.¹

By Staff-Commander JESSE DIXON, R.N.

In the event of war with any Power where the base of our blockading operations is at some distance from any of our own possessions, or from the port of an ally, one of the principal objects will be, the getting out of ample supplies of coal, stores, and provisions to the fleet, and when safely got out, to protect them from being destroyed by the enemy; as our fleet, however, will probably be greatly superior to that of the enemy's (and I hope I shall not be considered too sanguine in assuming that in any war England may be engaged in, for many years to come, there would be no doubt of our maritime superiority, and that our Navy will be more powerful than any, and infinitely superior to most other navies), we shall have little to fear except from torpedoes, and perhaps at some future time from submarine boats, and for thus protecting our colliers, store ships, ships undergoing repairs, coaling, &c., and to do away with the expensive, and in many cases dangerous necessity of being continually on the move and under steam,² these or similar plans may be found practicable.

Again, powerful as our Navy may be, it can hardly be strong or

¹ Read at the meeting on the 15th June.

² It was lately stated at this Institution "That in the blockading of an enemy's port it would be necessary to coal ships so engaged, under way, as no blockading squadron, nowadays, could possibly with any safety anchor, but would have to keep continually on the move and under steam."