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HON. EDITOR'S NOTES.

To save postage I am sending out Vol. IV. with the May number. The circulation of the latter has been delayed in deference to an expressed desire on part of the Admiralty to suspend its issue until the end of the War.

W. H. HENDERSON.

1st May, 1919.

THE CONTROL OF SHIPPING DURING THE WAR.

At the end of July and even in the first two or three days of August, 1914, there were very few shipowners in this country who realised that war with Germany was going to take place, or who took any action which such a contingency would indicate. With a few exceptions, steamers on their way to Germany proceeded, as if there was no reason why they should not continue to do so, with the result that on August 4th 82 ships of 195,000 tons (gross register) fell into the hands of the enemy.

For some days prior to the declaration of war, communication with British ships in German ports had been obstructed, and even those shipowners who desired to get into touch with their masters in order to try to get their vessels away were for the most part unsuccessful. There were also some 90 steamers in the Baltic at that time and these were blocked in. Some of them were free to trade in the Gulf of Finland and the northern Baltic for Russian account, and later on in 1916 and 1917, measures were adopted by the Swedish Government by which practically all these ships eventually managed to escape by using the three mile limit with Swedish crews until they reached Norwegian ports.

Against this there were considerable captures of German and Austrian steamers homeward bound, as well as the seizure of such vessels in Indian and colonial ports as had been unable to clear just before the declaration of war.

The grasp of the position by the German shipowners and their masters abroad was very much better than that possessed by ourselves. In many places, particularly in Australian ports, steamers cleared out during the night of August 3rd, without papers, and with such cargo as they happened to have on board and made for neutral ports such as the Philippines, Java and Sabang.

On the declaration of war, trade was being carried on in this normal course by three classes of steamers. First, the mail and passenger steamers running in regular lines between fixed points to scheduled dates. Second, the cargo liners running similarly between fixed points and to scheduled dates, but without quite such exactness as they of course had to pay no forfeit to the Post Office if the mails were not delivered on a certain date. It was obviously a matter of less importance to keep a vessel loading a day longer in order to get her absolutely full, than to keep a passenger steamer waiting with 500 passengers on board in

order to fill ten more berths. The difference between the passenger and mail boat, and the cargo liner, is more pronounced in certain trades than it is in others; for example, on the North Atlantic very fast ships such as the Mauretania and Lusitania carried practically nothing beyond mails and passengers' baggage. On occasions, in the height of the passenger season these vessels have been known to carry a small parcel of wheat from America to England and back again, and across the Atlantic a third time before they had an opportunity of discharging it. Similarly the fast P. and O. steamers running to Bombay were useless from a cargo-carrying point of view, but passenger steamers on the longer routes such as those to Australia, New Zealand and the Plate carried very considerable quantities of cargo. The reason for this being that there were not enough passengers to make it a paying proposition to ignore cargo.

There remains the third class of vessels which is known as the tramp. From the name which is applied to this class of vessel the assumption has grown up that she is a very inferior class of steamer; whereas, the fact is, that although she is not built for speed, she is, with the exception of the vessels specially built for the North Atlantic trade, the strongest type of steamer in existence. This was speedily revealed, even to those who were ignorant of it when under pressure of need, Indian and Australian liners were taken from their proper trade and put in the North Atlantic, and after one winter voyage showed signs of strain; whereas, hundreds of tramp steamers have been engaged on this route without a rest since war began and have sustained no injury. They are not so highly finished as the cargo liners, but their hulls are built to withstand any weather and the ships are constructed to sail as readily in ballast as with cargo and to stand such a strain as is imposed on them by a full cargo of ore.

The name tramp was applied to these vessels because they go wherever there is a demand for their services at the time, and carry any cargo on any voyage which promises to give the best results.

Tramp managing is really much more scientific and interesting than the conduct of a liner business. It involves an active knowledge on the part of the shipowner as to the steamer's capabilities and what it costs per day to run her, in upkeep, provisions, stores, wages and insurance, etc.; how much coal she will burn at her full speed and how much at some reduced speed, and a working knowledge of the calorific value of most of the coal produced on the face of the earth; some smattering of a seaman's knowledge of winds and currents to be met with throughout the world, and an accurate knowledge of the draught of water, not only in different ports but in different parts of each port; whereas, the liner owner is only concerned with the few ports to which he particularly trades and the few varieties of coal which he habitually uses.

In addition to this the tramp shipowner must know what the port charges are, the stevedoring expenses, and the length of time in which it is customary to load or discharge cargo in the various ports in the world. He must also keep himself abreast of the different regulations and taxes imposed from time to time on shipping by various nations. With this information at his disposal he is then in a position to calculate which particular employment of those offered him will give him the best result.

These offers of employment in peace time are of a very varied nature and differ widely according to the season of the year and the world's crops.

One source of employment may be the desire of a line temporarily to augment its fleet, either because one of its ships had got out of position or because there is more cargo offering at the moment than the line's fleet can deal with. This usually takes the form of a time charter because the tramp shipowner is not accustomed to liner business and is afraid of unexpected expenses.

By far the most general occupation of the tramp steamer is to carry full cargoes of homogeneous produce for merchants, between ports from which there is no established line, or to remove crops for which the liner accommodation is totally inadequate. Thus, for instance, when cotton is ready for shipment from the United States large numbers of steamers are chartered for full cargoes of cotton from places like Savannah and New Orleans to Liverpool, Bremen and Havre. When the grain crop is ready from North America, fleets of tramps are chartered to convey maize, barley, oats and wheat from the States to Europe. When the Plate wheat crop comes on in January, steamers are needed to bring wheat home to England from Buenos Aires and Bahia Blanca. Two or three months later when the wheat is exhausted, there is a demand for boats to bring home maize and linseed from the Plate. Again, from India at the height of the jute season in Calcutta considerable numbers of tramp steamers are chartered to bring jute to Dundee, Boulogne, Dunkirk, Hamburg, etc., and when there is a good wheat crop grain from Karachi. From Australia, tramps are required to supplement the regular liners when the wool season begins in September, and in a good wheat year, more steamers are required to bring home the grain in January and the succeeding months.

The Java sugar crop calls for steamers for removing the sugar from July to October. Vessels are required to bring nitrate home from Chile to Germany, France, Great Britain and Belgium; the chief demand being for nitrate to arrive early in the spring so that it can be put on the fields in March.

As a general rule, speaking broadly, the outward voyage is not the voyage on which the tramp shipowner makes his money, he is frequently content if he can get out to his homeward loading port

without a loss. The reason for this is that England and Northern Europe being the chief importing countries, they bring to their shores such a lot of steamers that the merchants with outward cargo generally have plenty of applicants asking for employment.

Outward cargoes for tramp steamers have been supplied hitherto mainly by coal from Great Britain, taken to all places where coal does not exist, such as Mediterranean ports, the Plate and the various bunkering depots throughout the world.

There are also a great number of what are known as cross-voyage vessels going neither out nor home, but trading from Australia to Chile, or Japan to Singapore, or taking a cargo of lumber from Puget Sound to Australia.

The happy time for the tramp shipowner is when good crops are gathered simultaneously in different and widely apart countries. Simultaneous good crops mean low prices, low prices mean a desire on the part of the merchants, manufacturers or millers to acquire stocks, and when two or more countries are competing for tonnage there is more employment than there are ships, and freights go up. The shipowners put one merchant and one country in competition with another merchant and another country and ultimately takes the one who will pay him best; the limit of his power to negotiate being the nearness of his ship to being ready for business, as it is obviously a very expensive thing to keep a steamer waiting.

Conversely, poor harvests or only good harvests in the nearer countries such as the Black Sea or America tell against the tramp shipowner.

There may be circumstances entailing long ballast voyages. For instance, the demand for coal at the Plate or at Rio may be pretty good and the shipowner will take a freight from Cardiff in that direction which will leave him a small profit or not a large loss, in the expectation that while the steamer is going to, or by the time she gets to the Plate he will be able to obtain a remunerative cargo homewards. But it may happen that, after being committed to the coal cargo something goes wrong with the Plate crops, it may be drought or locusts, or an unexpectedly good crop in another part of the world may have depressed the price of wheat, so that until the Plate farmers have adjusted themselves to the new values they refuse to sell, and trade with that quarter is practically held up for the time being. The tramp shipowner is then forced to look round the world and see to what place he will send the ship in ballast, and of course he has to put against the earnings that he will make on this fresh venture the loss incurred in sending the vessel a long distance, earning no money but costing him so much a day plus the price of his bunker coal. Here it may be mentioned that the tramp steamer's capacity for carrying bunker coal varies inversely with the quantity of cargo she has on board. She has a certain fixed

capacity for permanent bunkers which may be anything from 250 to 650 tons (the present size for large tramp steamers), but there is nothing to prevent her filling any of her holds or her 'tween decks and using them as bunker reserves. Thus, when freights are low and the contract price of coal abroad is high, it is not an unknown occurrence for a steamer to proceed from Cardiff to New York in ballast and then after loading, from New York to Australia, taking the whole of the bunkers required for this long voyage at Cardiff. It is simply a matter of calculation as to whether the cost of the coal at Cardiff plus the freight per ton of the cargo of the ship from New York, is greater or less than the price the owner would have to pay for coal at a bunkering port en route, with the additional expense of any time or port charges he might incur by bunkering.

One other cause which may upset the shipowners' calculation is if his vessel arrives at her loading port after the date which he has stipulated with his charterer. In making a charter it is usual to fix two dates between which the ship has got to be at the disposal of the charterer. Thus, the merchant is not obliged to provide the cargo for the steamer before the earlier date nor is he obliged to have anything to do with the steamer if she is not ready by the later date, although he may do so if he likes, but he must declare his option at once. The shipowner therefore endeavours to make his two dates as far apart as possible and the merchants as close together as possible; the merchant's reason for cancelling the charter if the ship is late is usually owing to a fall in freights from some of the causes suggested above.

Hitherto, London has been the principal market where these transactions take place, principally, because Great Britain has been immeasurably the largest tramp shipowner and partly because the principal export from Europe has been British coal, also because there is no doubt that London was the centre of the money market and the hub of the world's cable system.

Charters are printed documents adapted to particular trades. They are to a certain extent cut about and altered to suit the prejudices of the individual, and dates and rates of freight, etc., when agreed on are filled in. It is usual to employ a hardy race of intermediaries called shipbrokers to effect these bargains. The broker if acting on behalf of a tramp owner puts before him all the suitable forms of employment in the market and keeps on doing so till something is found to tempt his client. Similarly, if employed by the merchant he gets for the merchant as many offers of steamers as he can, and the most suitable and cheapest is selected. There are of course many negotiations, sometimes prolonged, before business results. The brokers may be said to live on disappointment tempered by an occasional commission. Sometimes both sides employ brokers. A shipbroker is supposed to know all about the different kinds of employment, technically known as

"freights," which he is offering, as well as the standing of the merchants concerned. He is supposed to keep his client safe from "snags" in the charter and, if required, to supplement his client's knowledge of the particular trade involved. If he is acting for a charterer or merchant he should be able to advise him on the qualities of the steamers offering, as well as on the characteristics of their owners. Finally, on him rests the responsibility of drawing up a document which can be understood by ordinary people, and which will keep the two contracting parties out of the law courts. For this, and his service in securing the employment he is paid a small commission on the freight earned, or if it is a time charter on the monthly rate of hire money paid.

Like all other trades shipowning has its good times and its bad times, but perhaps in the tramp shipowners' business the variations are more extreme than in any other branch of commerce. One of the principal reasons for this is the rapidity with which in normal times new tonnage can be put into the water, and the fact that the enterprise of the individual shipowner and shipbuilder insists on each new ship being an improvement on her predecessor. This desire continually leads to an increase in carrying power, coupled with improved means for loading and discharging cargoes quickly, and either some increase in power or a reduction in fuel consumption. It follows then that a boom in freights produces a boom in shipbuilding, and the inevitable reaction in trade is coincident with the appearance of numbers of new and larger ships which accelerate the fall in freights and prolong the period of depression till trade makes another leap forward and the process is repeated.

August, 1914, saw the shipping industry reaching the bottom of the valley after a very prosperous couple of years in 1911 and 1912. The fall began in 1913, and during the first half of 1914 made rapid progress so that by the middle of the year tramp shipowners were faced with the prospect of laying some of their ships up as an alternative to running them at a loss.

The outbreak of war immediately caused a demand for fleet colliers, and the Transport Department of the Admiralty had little difficulty in obtaining all the tonnage they then required from shipowners eager to obtain employment which would show some profit. For the first few months of the war most of the Government requirements were filled by voluntary charters effected at very reasonable rates. The chief demand was then for vessels to assist the Navy, fleet colliers and oil tankers, for both of which classes of vessel the Navy was entirely dependent on the commercial community. It was early apparent that with the increase of oil burning vessels in the fleet more tank steamers would be needed, and a dozen or so of ships of this type were laid down and built on Admiralty account. Ocean-going vessels were also required

to lay down and maintain Admiralty stocks of coal at the bunkering depots and various fuel bases abroad, and gradually a whole host of small vessels were employed in carrying stores and provisions to the fleet, boom defence gear, ammunition, spare anchors and cables and all the countless things required by such an assembly of men-of-war as the Grand Fleet. The fleet colliers had mostly been built by their owners so as to get a preference when chartering was being effected for manœuvres, and it is doubtful if real war had ever been contemplated by them. They had been constructed to comply with Admiralty requirements, with large hatches, long derricks, Temperley transporters and plenty of winches. Their owners were highly satisfied to get them chartered and vaunted their suitability. As the war went on and commercial freights rose by leaps and bounds their satisfaction suffered a visible decline.

For the Expeditionary Force to France, the large passenger liners then in the United Kingdom were withdrawn from their trades and adapted to carry the maximum number of men for the short trip across to Havre. Large cargo liners were taken up for the transport of the horses, artillery and mechanical transport, in those days very largely motor omnibuses.

All this took up a considerable number of ships but without much effect on a freight market which had been overstocked with tonnage and had been temporarily paralysed at the opening of the war. With the re-establishment of credit, however, owing to the prompt measures taken by the Government in conjunction with the Bank of England and the great banks and discount houses, coupled with the organisation of the Government War Risk Insurance Scheme through the medium of the Protection and Indemnity Clubs, confidence revived and merchants and shipowners resumed business; all the more readily because it was apparent that the number of enemy cruisers and raiders at sea was small, and with the exception of the Emden and Karlsruhe comparatively harmless.

The first step taken by the British Government outside strictly naval and military requirements was in connection with the supply of sugar. This is a commodity for which in peace time we had been largely dependent on Germany and Austria, and the maintenance of the supply in war had obviously been carefully considered beforehand, as the earliest active freight demand was for ships from Java, chartered by sugar merchants in touch with the Government. A great deal of tonnage was chartered at rates considerably in excess of those ruling for other business, and at the end of 1914 there was in this country a very considerable quantity of sugar. After that the demand for ships grew; a number of fast passenger ships were taken to be used as armed merchant cruisers. Australia and New Zealand took up passenger and cargo steamers in their own waters both for troops to be trained

in Egypt and for their own expeditions to New Guinea and Samoa, and for horses to India. India took up vessels for troops to East Africa, and South Africa chartered steamers for the expedition to German South West Africa. France required tonnage for war material from the U.S.A. as well as for horses and mules and their fodder. Italy being denied coal from the United Kingdom was seeking it from America and trying to stock up other commodities as well; and the trade of the world was all the time being continued on a peace-time basis of imports and exports.

Against the elimination of the enemy fleets must be put the practical cessation of their sea-borne trade, which was a good deal in excess of that carried in their own ships, but by the end of the year the war demands, plus the depredations of the Emden and the Karlsruhe had produced a distinct stringency in the freight market, and the Government decided on a policy of requisition. This was done on a time charter basis under Order in Council at rates agreed with representatives of the shipowners and known thereafter as "Blue book rates." These were altered once or twice, where they proved to be unequal as regarded different types of ships, and were increased as the cost of running the ships became greater.

By these rates a monthly rate of hire based on the gross registered tonnage of the steamer was paid to the owners, the Government paying any enhanced wages and bearing the war risk.

The Mesopotamia Expedition and the expedition to the Dardanelles involved very large calls on the mercantile marine for the carriage of troops, artillery, horses, motor transport and stores and it was not long before complaints began to be made by the shipowners at what they considered was inequitable treatment by the Transport Department, as well as the wasteful manner in which many of them thought their ships were being treated. As long as it was merely a question of conveying men and material of war they were content to leave the matter in the hands of those whom they presumed were experts, but when it was a matter of stores and provisions, etc., they could not see that it was a matter differing at all from their own business, and many were the stories current on the different shipping exchanges of the country which implied that the naval transport officer was an unwise substitute for a professional stevedore. Perhaps the secrecy which was imposed and which prevented any explanation of what seemed extraordinary proceedings was responsible for much of the adverse comment which was prevalent at the time. The Admiralty's strange predilection for filling ships with sand was one of the features which came in for most notice. It appears that this was done to level up the after holds to the top of the tunnel so that motor transport could be run about under its own power on a boarded floor. This, of course, involved the provision of further sand forward to help the forward water ballast to get

the ship on an even keel; but a shipowner who had his vessel handed back to him in Egypt and was told by his agents that she could not commence to load till she had discharged 3,000 tons of sand taken from England may well have been excused, if, in the absence of any explanation, he thought the Admiralty were excelling the gentleman who sent coal to Newcastle.

If the naval authorities loaded ships in what seemed unorthodox ways, the military people who handled them at the other end were still more surprising. They appeared to have no idea that a ship's time was of any value to anyone, least of all to themselves and the success of their effort. The stories that were rife of huge ships being used as officers' hotels at Mudros, of large frozen meat steamers swinging round their anchors at the same spot with ten or a dozen soldiers left on board after the regiment had been disembarked, of the inability of the master to discover anyone who would take delivery of these men and give him permission to get his ship away, were laughable if they had not been so serious.

To deal with these complaints and prevent the causes of them, a small advisory committee of prominent shipowners was formed to assist the Transport Department, and one of their members was dispatched to Mudros and Egypt. He effected some improvement, but on the whole found that he was practically helpless against the failure to recognise that shipping was not only our strongest but also our most vulnerable link. Vessels were sunk to make breakwaters, only to be broken up in the first gale of wind. Large ships were used to carry small quantities of stores from Egypt to Mudros, because the smaller the cargo the easier it was to pick and choose the items. Very understandable if there had been no other point of view. Big ocean steamers were kept waiting at Scapa and Rosyth, with coal for the fleet. It was represented that much smaller boats would be equally suitable from the naval point of view, and gradually these large vessels were weeded out. The detention of colliers abroad however, was a fruitful source of argument between the shipowners at the Transport Department and the Civil Servants representing the Director of Stores. It was thought that naval officers were not too keen on coaling out of a ship which was half empty in preference to one which was full, and many impassioned statements were made on both sides. It is not possible to say who was right, perhaps neither side was completely so, but after some four years of war, some signs of improvement were apparent. One good thing was the entry of Brazil into the Alliance. This put a stop to steamers going to a mysterious spot called the Abrolhas, where they disappeared for six months at a time.

Meantime at home Kitchener's Army was growing, the Ministry of Munitions was extending its operations . . . .

Trench warfare was becoming scientific and making huge demands for timber. Horses and mules were being imported by tens and

hundreds of thousands, and were requiring vast quantities of oats and hay. The assemblage of ships in the Mediterranean demanded more coal, and the wheat situation in this country as well as amongst our Allies began to cause some apprehension. The information possessed by the Admiralty as to the position of ships was not systematised, and there was no one in the Transport Department with a technical knowledge of the shipping industry except the Advisory Committee, whose time was too fully occupied with disputes between individual shipowners and the authorities, etc., to enable them to lend their full assistance to the different departments. A firm of shipbrokers with offices in Newcastle and Cardiff had power to requisition ships to carry coal, and the different branches of the Transport Department in the Admiralty, each requisitioned for the requirements put before it by the War Office and the Navy. It was no uncommon thing for the same ship to be requisitioned by several different people on the same day, generally the day on which Lloyds had reported her arrival in a United Kingdom port. Without very much knowledge to guide them as to the nature of the ship beyond the gross registered tonnage, (the time had gone past when it was a privilege to be on Government Service, and the owner's agent haunted the Admiralty with plans and details and all his own technical knowledge,) with perhaps less information as to the weight or measurement of the various commodities now to be carried, and still less of the draft of water and capacity of the ports; the unfortunate members of the Transport Department had to do the best they could by the light of nature and their own acute intelligence, to carry out the behests of the two services, who, particularly the Army, were embarking on vast transactions with foreign countries in which their zeal for economical purchase led them entirely to overlook either the length of the voyage or the nature of the packing. Hay was brought in large quantities in the Argentine because it was cheaper than that offered by America. That Buenos Ayres was further away than the Gulf was overlooked, as was the fact that the Plate hay was loosely pressed and measured 200 feet to the ton of 20 cwt. while the American hay was hydraulically pressed and a ton stowed in 65 feet.

When tonnage was getting short it was even suggested to bring oats from New Zealand because they were about 10s. a ton cheaper than those in America. Propositions such as these show one of the drawbacks of requisitioned tonnage. Had the War Office been compelled to charter they would have found that the extra freight required for the Plate hay amounted to several hundred times the saving they were achieving in the f.o.b. cost.

When several branches requisitioned the same ship it was generally decided that she should be the property of the branch which appeared to have the most urgent order, and was promptly dispatched in the direction required. That she was possibly not suitable to carry the

cargo was undreamt of. Her name had been submitted to the naval assistant who consulted the plan. If, so far as was known of its nature, the cargo could go down her hatches and the stowage not be impeded in the holds by cross beams, she was passed, but such a thing as rejecting a ship for oats because she had been built for the ore trade was not customary. Indeed, why should a naval officer be expected to know that oats from the Plate measure anything from 65 to 85 cubic feet to the ton, according to the nature of the harvest and according as to whether the seller has made a good bargain or not? Or how should a naval officer know that nitrate stows in 32 cubic feet to the ton and is such a dead cargo that, when the Panama Canal is closed it is not reasonable to expect a low-powered eight-knot Black Sea tramp to come home round the Horn with it much faster than six knots?

Again, a cargo of timber was a cargo of timber. To be on the safe side a ship would be turned down by the naval assistant unless she had fairly large hatches and a clear hold. No specification was presented to show whether the timber consisted of sleepers or of logs 60 feet long, and the wood was purchased just as readily from a port where there was only 19 feet of water as from a place where the draft was practically unlimited. Of course, when the timber was huge logs from Vancouver for boom defences measuring up to 80 feet in length, a P. and O. cargo steamer built to carry general cargo and wool was in rather a false position.

To remedy these defects it was desired to set up a branch of the Transport Department to deal solely with requisitioning and with the allocation of requisitioned steamers. The executive branches, which had to satisfy the demands of the Army and Navy, and the other Departments of State which looked to the Admiralty for sea transport were no longer to seek for tonnage independently, but to submit their requirements to the requisitioning branch whose duty it would be to provide ships suitable in themselves and in their position, for the various orders. To this end two or three shipping men who had volunteered their services were called in from their business and instructed in what was needed and shown the ropes. One of the first things they pointed out was, that demands must not be sprung upon them for what is known as "prompt tonnage," that is to say, that when contracts were made for cargoes from abroad they would require to be for fulfilment a reasonable time ahead, that the Transport Department must know at once what was impending, and similarly some notice would have to be given for ships which were wanted to load out from this country.

As an example of what had been the practice; at the very inception of the requisitioning branch about the middle of December, 1915, they were told that large quantities of oats had been bought for shipment from the Plate in January and in February, and that similar quantities of nitrate had to be shipped in the same months from Chile. It was

imperative that there should be no delay. It is obvious that a ship which can load in the Plate early in January must have arrived there by the middle of December, and that as any ships which might be in Chile or Peru would already be engaged to load nitrate, the only way to get more ships there by January (the Panama Canal being closed) would be to send them off from the Plate before the end of December. To do these things meant breaking everybody's engagements, and, though it was done, the loss imposed on the merchants in the Plate amounted to some hundreds of thousands of pounds. It was remarked that with six weeks' or two months' notice this could have been avoided.

An action which was recommended and was taken was to requisition a considerable number of ships in advance, the requisition to take effect at various ports of discharge, so that any unexpected and sudden increase in demand would never find the cupboard bare, and thereby involve the upsetting of private engagements, which it must be remembered were generally of equal importance to the nation as a whole as was the carriage of the particular cargoes required by the War Office or whomsoever it might be.

Thus, stopping a ship loading a cargo of wheat or even of oats for civilian consumption, in order to load a cargo of oats for Army consumption, was not really getting on with the war, though at that time with a short view of the war the needs of the nation were not very much considered by the fighting services. This course of advance requisitioning was not perhaps according to the Order in Council which only authorised requisitioning for urgent Government requirements, but in practice it worked well; the urgent requirement generally matured before the ships were ready, and if not, the owners were very happy to have a vessel released.

For the different services where a continual supply was needed unsuitable vessels were weeded out, and fleets of ships appropriate to the cargoes and voyages required were given to the branches of the Transport Department concerned. Thus, some 70 to 80 ships of the shelter deck type were detailed for the oats programme, and 50 to 60 full-powered 'tween-deck ships were allocated to the nitrate trade. No branch was allowed to change the employment of one of its ships; when there was no further use for her in her particular trade she had to be returned to the requisitioning branch who would then allocate her to some other employment for which she was adapted. This prevented a 26 feet ship being ordered to a 19 feet port. The requisitioning branch also worked out the proportions in which mixed cargoes should be carried, such as a combination of steel and hay, where steel measured ten feet and hay 200 feet to the ton of 20 cwt.

Another activity of the requisitioning branch was the occasional search for a freak vessel to carry some particular type of cargo. It might be a ship with a prodigious hatch to take 12 inch guns to

Archangel, or a small ship to take large locomotives to France, or a fleet of vessels which were adapted for the conveyance of railway trucks on their wheels, ready for the rails when discharged, or again a selection of easily disguisable and appropriate-looking steamers for a Q boat captain to inspect and select from. The first boat provided to carry "tanks" for instance, provided much anxious thought, for though the measurements and weight were known, nobody in the branch knew what a tank was like, and visions of 25 tons stuck by its stern wheel on the coaming of the hatch were disquieting.

When it was decided to requisition vessels for sugar it was apparent that this was neither a naval nor a military job, and a commercial branch was set up with this trade as the nucleus of its business. The requisitioning for iron ore soon extended its sphere, and it dealt with these two commodities for some time. About the beginning of 1916, when the Ministry of Munitions took up nitrate, this was added to the duties of the commercial branch and a well known shipowner was put in charge. Fresh operations followed quickly. A commitment made to the Commission de Ravitaillment, acting for the French Government, to help the French with the carriage of oats was handed over to the new branch. Then followed steel from America for the French. With the creation of the Wheat Commission (the forerunner of the Ministry of Food, of which it became a part) at the end of 1916, and the requisition of steamers on blue book rates for wheat, the work of the commercial branch increased by leaps and bounds. Like the naval and military branches, the commercial branch had to put its requirements before the requisitioning branch, whose duty it was to find the ships. As tonnage became scarce, these various demanding branches met once a week under the presidency of the requisitioning branch, and presented what they considered would be their probable requirements from each and all parts of the world for the succeeding three weeks. So many coal ships from the United Kingdom for instance, so many ships for stores to Egypt, Mesopotamia, Salonica and East Africa, so many craft to carry roadmaking slag to France, so many vessels for the French steel and oat programme, replacement of casualties in the fleet colliers, large nitrate programme, (because the Ministry of Munitions had finished the Gretna factory and were doubling the output of explosives,) so many ships for wheat from America, Karachi and the Plate, maize from the Cape, rice from Rangoon, 15 ships from Cuba with sugar, two vessels wanted for coal from Westport N.Z. to Hong Kong, one for the Calcutta-Colombo coal trade and so on and so on. In preparation for this, the requisitioning branch had made an estimate of its assets, and blandly, or as blandly as possible, informed the other branches that somebody and probably all would have to go short. Then followed what was really an amusing scene, albeit one very full of anxiety, after each branch, by the pressure of the other, had lopped

off a ship or two and arrived at an irreducible minimum, to go beyond which would probably stop the war, and certainly put Italy hors de combat, the chairman would announce that he was still 30 ships short, and while he could meet the coal demand by all but five ships, the maize would have have to stay in Africa, and most of the rice in Rangoon, because he really had no ships in those waters at all. Latterly he was able to add one ray of comfort in that the success of the convoy system enabled him to reduce the estimate which had been formed of the probable losses. The weekly deficit was cumulative and grew, but somehow everybody managed to carry on, from which it may be inferred that some of the departments had a bit up their sleeves. These were strenuous times however, and to increase rapidly the supplies of something that seemed vital, such as nitrate, the requisitioning branch paid scant attention to the party who were responsible for say sugar.

When liner requisitioning was set up later in 1917, imports were drastically cut down, controllers of everything installed; definite monthly programmes of every kind of import, from manganese ore to American cheeses, from 6-inch shells to palm kernels, were drawn up, and the duty of getting all these requirements parcelled out amongst the liners, devolved on the commercial branch. The different sections of the liner committee, such as the North American, the Indian and the Australian, had to estimate the tonnage they had available, and do their best to work to the commercial branches indents. When liner and tramp together could not cope with all the latter's demands, the Minister of Munitions or some of the different controllers had to go short for the time being.

Each liner section had at its head a shipowner connected with the trade concerned, and they worked through conferences of the owners operating the ships from the different parts of the world. When the shipowner responsible for India for example, found that he was not being asked to carry as much tea as he anticipated, he might have a ship to spare. In that case he was sure to find someone who was grievously short, say to carry all the cargo required from Montreal. The spare ship would then be handed over by the Indian gentleman to the Atlantic gentleman. The Indian conference was then informed that this vessel would not be allowed to go to India, but must proceed in ballast to the St. Lawrence, and the North Atlantic conference was asked to appoint a firm to look after her, and to load her in Canada, as if she were one of their own boats.

A commodity that was not dealt with quite on this principle was frozen meat. The responsibility for this import rested with the Board of Trade, assisted by the men acquainted with the trade. They in turn were responsible to the Army, in the United Kingdom, France, Salonica, Egypt and Mesopotamia, the civil population, and the French

and Italian Governments, and had a shipowner at the Ministry of Shipping whose business it was to see that they got what they required. Where the ships were entirely insulated he had a fleet of his own and could juggle them as he pleased, like the man in charge of the fleet of oat ships or horse ships. But when they carried partly meat and partly general cargo he had to work in his scheme with the other liner sections.

Tankers with oil for the fleet and for civil use were run by the Store Department of the Admiralty, combined with what was known as the "Oil Pool Board," working through the naval branch of the Transport Department, and again were operated as a homogeneous fleet.

The system by which the requisitioning branch retained control of the employment of tramp steamers was as follows:—The different branches were looked on as so many different time charterers. A ship in Liverpool would be allocated to the collier branch to load for the Mediterranean. When she was at sea, the collier branch would issue a paper called a release docket, setting forth the port to which she was bound and the date at which she was expected to be empty, together with her draft and the quantity of bunker coal she would have left. This was given to the requisitioning branch, and formed one of the stock out of which was to be selected the steamers for current or anticipated requirements. In the course of a few days there would be an accumulation of many of these release dockets relating to different vessels in various parts of the world. On the other side of the ledger would be numerous demand notes asking for ships to carry all sorts of cargoes from all sorts of places, on the lines discussed at the weekly conferences. The requisitioning branch then endeavoured to marry the suitable ship to the suitable job, and when the decision was reached, endorsed the docket to the branch whose demand note it was intended she should fulfil, stating the particular cargo and voyage she should undertake, sending it round to the branch concerned. The demand note was filled in with the name of the ship, and kept for reference. The whole transaction was entered in a book and a note of it was taken the following day by the Shipping Intelligence section of the requisitioning branch. In due course, an alteration was made on the card in the index, to the effect that the Artaxerxes had been transferred from the collier to the commercial branch, or whichever it might be. The new branch was treated as the new time charterer and they had to keep in close touch with their predecessors till the ship was ready and turned over to their job, when they were responsible for having her orders waiting for her and her employment all arranged. In their turn they gave her up when the voyage was over and their release docket was endorsed to a fresh branch and so on. Specially selected ships to run in a fleet, like the oat vessels to America, were not released unless they

were redundant, or unless on their arrival in France or the United Kingdom there was such a shortage of colliers that a coal voyage out to Gibraltar had to be exacted from them. This, of course, depended on the relative urgency of coal and oats. If they were to bring oats home from the Plate instead of from America, there was not much loss of time in taking a cargo of coal en route, and in that case they would be handed over to the collier branch for the voyage out. Nitrate steamers in the same way might take coal to Chile or Callao.

In the latter months of 1915, a committee was formed called the Requisitioning (Carriage of Foodstuffs) Committee. The object of this body was to maintain the supplies of wheat in this country, later on their operations were extended to assist France and Italy. They did not actually requisition vessels, but being kept informed of the supplies of wheat afloat, supplemented them from time to time by instructing the requisitioning branch to choose vessels in suitable positions and direct them to be chartered for wheat at market rates. In this way, the imports of wheat were kept up, and when the stocks were fairly high the result was to depress the rates of freight for this article.

Very painstaking statistics were kept of each shipowner's proportion of Government service, and one of the difficulties of the requisitioning branch was to endeavour to keep the balance fairly even between the different owners. Of course, extreme suitability of type or position from time to time involved hardship on some unfortunate individual.

As 1916 progressed, the growth of the Army, the extraordinary increase in munitions, the exhaustion of Italy's stock of coal and the demands of France for all kinds of commodities imposed ever growing demands on the mercantile marine, and on the top of it all came the provision of some hundreds of steamers to take coal and munitions to Archangel. The losses of fleet colliers by submarines and the increase of the fleet, meant more demands on the coasting coal trade, when they were met, the London gas companies came to say that they must have help or their works would stop, nor was this complaint confined to London. Places as widely apart as Dublin and Monte Carlo sent impressive deputations to the requisitioning branch to plead their hapless case.

The provision of an ammunition carrier to the Navy meant, so it was said, the closing down of a linoleum works and the consequent unemployment of some thousands of women and men.

Requisitioning a small steamer for work in the White Sea was apparently going to result in the starvation of a large section of Ireland. Chief Secretaries, Members of Parliament, bishops and generals united in protest. This experience was of daily and in some cases of hourly occurrence. From 10 o'clock till 6 streams of people had to be interviewed, and if possible pacified every day, and the work of finding further ships had to be done in the evening. Friday night was a good

time to send out requisitioning telegrams—by that means the flood of indignant callers could be postponed till Monday, and Saturday and Sunday could be devoted to further research.

A committee was set up under the presidency of Lord Curzon, mainly to decide what were essential imports, and to what extent the demands of our Allies should, if possible, be met. Although, perhaps, the light and leading from this committee was not all that the requisitioning branch had hoped, for, and although they might still be left largely to the light of nature in deciding which of two particular cargoes of imports should be the one to suffer by the requisitioning of the carrying steamers; the name of the committee was invaluable in quieting remonstrance at what was considered high-handed action. When some little vessel had been taken up for some special military or naval operation, and held against all the assaults of Ministers of the Crown whose constituencies were interested, mayors, co-operative societies, and deputations of distinguished citizens, it was an awkward thing to find after some weeks, that the particular stunt had been abandoned, and that the statements made in support of the requisitioning were not quite accurate. That the requisitioning branch escaped assassination and emerged with some measure of popularity is a lasting tribute to the reasonableness of the British public.

By November, 1916, it became apparent that no further combing out was possible. As many of the lower-powered cargo steamers of the lines had been taken on requisition as was compatible with the continuance of their services. The list of tramps had been gone through again and again, and the engagements which had seemed inviolable in April, were doubtful in July and ruthlessly upset by September, by the end of the autumn there was no residue left. Such tramp ships as were not then under requisition had certificates of immunity which could not be disregarded.

Ships which had escaped from the Baltic for instance were granted freedom from requisitioning as an inducement to incur the risk and expenditure of the escape. Even they were "directed." A certain number of vessels had to be left under charter to the French and Italians, and the colonial governments, not quite appreciating our straits, were objecting to any further interference with their local trade. To provide for the periodical Italian coal crisis, it was necessary to direct some of the smaller Atlantic liners still free from requisition, to take coal to Gibraltar before proceeding to America. In these circumstances the requisitioning branch said that the only thing now to be done was to interfere with the long distance lines as a whole, to curtail their voyages, and to divert the ships to nearer countries whence supplies could be brought in a shorter time. This of course meant America for most things and the Plate instead of Australia and New Zealand for some of the meat. To do this it was suggested that a special liner

requisitioning body should be formed of shipping men connected with the big lines and known to all the people in that branch of the ship-owning industry. A letter on these lines was sent by the Transport Department to the Cabinet. Soon after this, Mr. Lloyd George's Government was formed and a pledge made that all shipping should be put under requisition. This was done by a liner requisitioning committee who came to an agreement with the lines, by which the lines themselves were run by the Government, the companies receiving hire money for the ships and a commission for carrying on the business. The direction in which the ships were run was left to the New Ministry of Shipping, which was set up at that time to absorb and enlarge the Transport Department of the Admiralty, the arrangement being that a steamer taken from her ordinary route should be transferred to the agency of some company which was allied or friendly to the owner, and which was operating steamers on the new route selected.

To put this process into practice required some time, but by the autumn of 1917 a considerable concentration of tonnage on the North Atlantic had taken place, which was carried still further when the American trooping began in May of the following year. The result was seen in the variety of house flags flown from steamers in New York during 1918. "Orient, Anchor, Bibby, Hall, never go that way at all," wrote Kipling in "Just So Stories," but they and every other Eastern and Australian liner found themselves in the United States and Canadian ports before the war was finished.

Another revolutionary movement was effected when in the winter of 1916 it was discovered that the greater proportion of vessels requisitioned by the Indian Government for the Mesopotamia expedition were of large size and deep draft, quite unsuitable for the Basra Bar. These vessels were removed from this service and put on to long voyage routes their places being taken by a large number of small vessels from the China coasting trade, which in many cases were admirably adapted for the purpose.

By these successive steps all British shipping was brought under requisition to the State. The institution of the convoy system brought their actual movements between ports under the control of the Admiralty.

Apart from the U.S.A. this country practically controlled the coal supplies of the world, this proved a very effective lever in influencing neutral shipowners to trade for the Allied account. Unless a neutral steamer got into American waters, she had either to lie up or obtain bunker coal from Great Britain; the only way by which she could obtain bunkers, or for the matter of that stores, was by undertaking employment which was satisfactory to the Government. When unrestricted submarine warfare began, further steps had to be taken to prevent neutral ships being laid up. These took the form of attractive rates of hire money, the British Government bearing the war risk on

the one hand, and on the other hand statements to the effect that, if the vessels did not go to sea under the employment offered, the flow of essential commodities to the neutral countries would be very seriously restricted. When the U.S.A. came into the war, Dutch and other steamers which were in British or American ports and which had hitherto not traded for the Allies, were requisitioned under the *jus angari*, and put to Allied uses at a liberal rate of hire.

The disposition of these neutral steamers was roughly as follows:— In the case of the smaller ships chartered before the *jus angari* requisition scheme, Great Britain was the country to which the neutral shipowner looked upon as his charterer and this country parcelled them out on sub-charters, either by the voyage or by time charter to Italy and France, through the Inter-Allied Chartering Executive, retaining about ten per cent. of the vessels for our own use. Any profit the Inter-Allied Chartering Executive might make, formed a fund to be used as compensation should it be desired to return them to their owners before the agreements expired—as for instance the war terminating sooner than was expected when the ships were chartered. Of the requisitioned vessels, America had about 50 per cent. and this country the other half; they were for the most part retained in the service of these two nations. Needless to say, the Dutch did not care about the *jus angari*, but they were given very profitable remuneration and to have raised difficulties would have stopped the importation of necessary foodstuffs, etc., from British ports and from America, so that in spite of an effort on the part of Germany to engineer resistance, Holland accepted the situation and has not been a sufferer.

The entry of America into the war did not alleviate the shipping situation, whatever their building programme might have effected in time. The immediate result was for this country to refer our Allies, France and Italy to the U.S.A. for shipping assistance, but it speedily became apparent that they could do nothing to help; indeed when their Army began to move in the spring of 1918 we had a request from the American Government to help them with cargo steamers for stores, in addition to the assistance we were giving with troopships. It became, then, increasingly apparent that Great Britain could not bear the burden of individual appeals from each of her Allies in turn, when each of them was soliciting aid without any regard to her neighbour's needs.

It was accordingly decided to pool the resources of all the Allies, and form an Allied Maritime Transport Council which would act on a large scale for all the nations exactly as the weekly conferences of the requisitioning branch had for all the different executive branches of the Ministry of Shipping. The council which was composed of delegates from each nation took over the obligations of Italian and French coal, Belgian relief and the Allied food and munition programme; this of course meant that processes of adjustment had to be made in accordance

with the tonnage available in the pool. In practice the Allied Maritime Transport Committee while very useful in curtailing the demands of our friends by putting the cards before them on the table, was really a finding, rather than an executive body; for with such an uncertain article as a ship, even when not subject to enemy attack but only to the ordinary risks of weather, accident, congestion and strikes, it is impossible to guarantee fulfilment of any contract unless one has a large margin of tonnage to fall back on, and this of course was never possessed by the pool. In the long run, it came back to the Ministry of Shipping being told, "this is what is desired and the best must be done to meet it."

Congestion of the French ports in 1916 was a great source of trouble. The French believed in having the stuff in sight even if they could not get it discharged. They wanted all the meals for the day set on the table at once, though they knew their mouths could only accommodate a small portion at a time. Drastic action in refusing assistance with ships brought about a gradual remedy to this. Nor were we entirely blameless. We frequently crowded Boulogne, Calais, Havre and Dunkirk, so that much tonnage bound for those ports had to wait, and latterly in 1917 and 1918, when we were making great efforts to build up our stocks, especially in cereals, we had from time to time considerable congestion in our own ports. This sort of thing, as was frequently pointed out, was equivalent to a reduction of our carrying capacity, and a Port and Transit branch was set up to cope with it. By the organisation of labour battalions to lend a hand in a press of work, wherever it might be, by pressure on the railway companies, and on the various branches of the Food Ministry to see that they secured warehouses before they ordered the stuff, and by getting the liner owners to help, a great improvement was effected, and latterly on the whole, ships were very little delayed in the United Kingdom. Taking it all round, the men, especially in Liverpool, where in 1918 big ships poured in, really worked well. Bunkering steamers in hot weather, at high pressure and with but little beer, is hard work when it is done day after day for weeks and months on end.

The shortage of ships, due to war requirements for ourselves and our Allies and the depredations of the enemy, were met by most drastic curtailment of imports, which were reduced to the narrowest margin of raw material for carrying on the bare skeleton of our manufactures and export trade, and otherwise confined to the two prime necessities, food and war material. This, and the concentration on the shortest routes enabled us to carry the war through with good stocks in hand at the finish.

THE LEAGUE OF NATIONS.

THE objects of the League of Nations, as laid down in the Preamble of the Covenant, are:—

(1) To promote international co-operation.

(2) To secure international peace and security.

International co-operation is placed first, as being the more important. It figures less prominently in the Covenant, since this deals with the constitution of the League, and hence throws greater stress on the machinery than on the work which it is intended to do.

"It is important to realise," says an authoritative article in the "Times" of March 10th, 1919, "that this central constitution of the League is intended to place the control over foreign policy directly in the hands of the chief responsible statesmen of each nation. Such matters are no longer to be dealt with by correspondence through Foreign Offices and diplomatists, but are to become one of the main duties of statesmen immediately responsible to the public opinion of their peoples."

Apart from the immediate value of international co-operation in matters such as Labour legislation and economic conditions, it will readily be appreciated that the best means of making the League a working reality instead of a paper scheme is to give it useful work to do. The prestige which the League acquires in doing good work of a non-contentious sort will make the peoples of the world more inclined to trust it when there are serious disputes to be settled.

Peace by arbitration, however, would be a day-dream unless security could be assured. Whatever the fundamental causes of an outbreak of war may be, it is fear which precipitates it—the fear of a sudden attack at a weak moment. It is necessary not only to set up machinery for handling disputes, but also to ensure as far as possible that the machinery shall be used. Hence the League must be prepared to defend the sanctity of its Covenant against any state that deliberately breaks it.

THE MACHINERY OF THE LEAGUE.

Many writers have advocated the formation of a super-national government, which would take charge of all the national governments in certain matters, as Washington does in the case of the United States, or as Pope Hildebrand tried to do in the case of medieval Christendom. This consequence would follow if the executive governing body of the League could act upon a majority vote.

It may be that civil servants would work as hard for an international administration as they do in the service of their own countries, but the inspiration of patriotism or national honour is necessary to make

a man fight. Nor can good work be expected unless each nation is allowed, as in the case of the British Empire, to run its own show in its own way; in other words, to retain its individual sovereignty. This principle is safeguarded in the Covenant of the League of Nations by the fact that, with certain exceptions which need not detain us, decisions at any meeting require the agreement of all the states represented.

The machinery of the League consists of the following:—

(1) An Assembly on which each of the states members of the League is represented.

(2) A Council on which the five Great Powers and four other states are represented.

(3) A permanent Secretariat.

These constitute the Central Body. The Council will probably do most of the work; the chief functions of the Assembly will be to admit new members to the League and to consider amendments to its constitution. Disputes may, however, be referred by the Council to the Assembly; the latter will, of course, be more difficult to get together, and, being larger, will achieve more talk than work.

In addition to the consultative body, the machinery of the League includes:—

(4) A Naval and Military Commission.

(5) An International Court of Justice.

(6) Commissions and Bureaux to deal with the various administrative matters requiring international control.

As stated earlier in this paper, (6) will be the most useful, if not the most showy part of the League's machinery.

The Limitation of Armaments.

Competitive armaments have sometimes been regarded as a wasteful but on the whole an effective way of getting the peace kept. No country, except the United States, can continue the race at its pre-war rate.

There was also a hope that when Germany was beaten and disarmed the rest of the world would be ready to live in harmony, and that a natural reduction of armaments would follow. There is, however, only too much reason to think that it was nothing but the fear of Germany that caused the other nations to sink their differences and act together, and that the defeat of Germany is regarded by most of them as an opportunity for increasing their power at the expense of their neighbours. Unless some means is found of inducing all the nations to refrain from developing their armaments, Europe will find itself without the security it needs for economic reconstruction, and the return of stable conditions will be dangerously delayed.

The hope of preventing a recurrence of competition in armaments rests principally on the development of international co-operation, the recognition of common interests and the peaceful solution of disagree-

ments, and on the provision made in Article VIII. of the Covenant for a full and frank interchange of information.

No plan of reduction of armaments can be formulated unless the Council comes to a unanimous decision, nor can this plan be adopted until all the nations have agreed to it. Pessimists will say that they will never reach agreement. It depends on the atmosphere. For instance, it might be possible for the British delegate to say to his colleagues, "We want to lay down a ship shortly to replace the Nonsuch, but if none of you are going to lay down a ship this year we will put her off till 19—." As battleship strength is purely relative, a favourable atmosphere would enable the congress of governments which the machinery of the League brings into being, to effect a gradual and harmonious reduction of armaments. If, on the other hand, one state declines to reduce its programme, we are no worse off than at present; while no power can have a reduction imposed on it by the remainder if it is determined to resist it.

As regards private munition firms, it is evident that on the one hand people like Krupp's must be prevented from playing off the fears of one nation against another's in the interests of their shareholders; and that, on the other hand, government control in any form over munition firms would render the supply of munitions from a neutral country to a belligerent illegal. Such restrictions would play into the hands of a nation which had secretly prepared for war and accumulated large resources for the purpose. It is an awkward problem, on which uninformed public opinion is particularly liable to take a wrong line; it will be for the Naval and Military Commission to be set up under Article IX. of the Covenant to find a way out of the difficulty. One means would be to make the armament firms report exactly what they were making, and who for.

It is evident that the provision that there shall be full and frank interchange of information as to military and naval programmes will break down if some nation does not play the game. It must be remembered, however, that the great industrial effort required to produce modern war equipment in sufficient quantity makes secrecy difficult to maintain except in matters of detail.

The Naval and Military Commission.

In case of war, it is the several governments and their military advisers which have to provide the forces and be responsible for their direction. Furthermore, as a house divided against itself cannot stand, the Naval and Military Commission set up under Article IX. cannot produce war plans for action against a member of the League. Any attempt to produce an international General Staff or worse still, an international force, would be both useless and dangerous, since the defection of one nation from the League would cause worse confusion than the simple absence of arrangements for co-operation. A common danger would give

a strong incentive to common action; whereas an international staff or force would, at the very moment that an emergency called for action, suffer the breaking up of a pre-existing union.

The Naval and Military Commission under the League of Nations cannot therefore do more than assist the Council in the execution of Article VIII. of the Covenant, and advise upon matters of a general nature, such as the Customs of War.

WAR.

The most important article in the Covenant is number XVI. If any member of the League attacks another without previously submitting the questions and matters involved either to arbitration or to inquiry by the Council, or makes war within three months of the award of the arbitrators or the issue of the recommendations of the Council, or attacks a member which complies with the award or recommendation, "it shall *ipso facto* be deemed to have committed an act of war against all the other members of the League." The same provision applies to a state outside the League, if it behaves in a similar manner.

The League may have to go to war under other circumstances but only if its Council, which it must be remembered is simply a congress of governments, comes to a unanimous decision.

Article XVI. is the foundation of the League. No country must join the League which cannot carry out its obligations; no country would join it unless it could be certain that the other members would fulfil theirs.

The actual obligations are as follows:—

(1) Complete boycott of the enemy.

(2) Financial and economic support of the other members.

(3) Free passage for the forces of the League.

The effective naval and military force to be contributed by the members of the League is however left for the recommendation of the Council, so that the sovereign rights of the independent states over their armed forces are not affected by the Covenant.

Thus if Germany attacked France without complying with the rules of Article XVI., the United States would be bound to apply the boycott and to back the League with money and supplies, but would not be bound to send a single ship or gun without the consent of the Senate.

This looks bad, and the French Press have naturally called with vigour for something more binding. But, it may be asked, is it reasonable to expect any state to bind itself permanently and in advance to any undefined military action? Or if indeed a government so bound itself, is there any certainty that the people would support it? Further, on what permanent basis can the naval or military contribution of a state be fixed?

The truth is that the Covenant has gone as far in the direction of binding its supporters as the retention of independent sovereignty permits; if it went any further, some nations, including quite probably the United States, would be unable to accept it, for constitutional reasons if on no broader grounds. For example, the Covenant is a stricter bond than that existing before the war between ourselves and our self-governing dependencies.

The League of Nations is in fact a political compact, and involves no definite military obligations which all its members must accept; its sanction lies not so much in the immediate use of force as in the prospect of ultimate victory.

There is however nothing in the Covenant to prevent military understandings of a defensive nature which do not conflict with its principles; nor is there anything to prevent a definite alliance of certain members of the League against a nation outside it.

The League and Sea Power.

There are two points of special naval interest, the Boycott and the extreme dependence of the League on Sea Power.

As regards the Boycott, it is evident that if there are no States outside the League, there will be no neutrals, no one for the enemy to trade with, and therefore no economic blockade; the blockade is in fact superseded by a more efficient instrument, which can be conducted on land by the customs authorities. Naval force will probably be necessary in the earlier stages of the war to deal with slippery customers who arrange to get their ships captured by the enemy, but this industry is not likely to prove a healthy one.

As regards Sea Power, it would appear that if the British Empire can protect its own principal communications against any likely opponent, it can with the assistance of other maritime powers do the same for those of the League of Nations.

There are few powers which could defy the boycott. The British Empire is too dependent on other countries for essential supplies. The United States could probably defy the boycott, but it is almost incredible that either of the Anglo-Saxon communities would ever be in the position of wishing to fight the League. Germany, or Germany joined to Bolshevik Russia, is almost the only state which is likely to possess in the future both the will and the power to set itself against us.

Conclusions.

It will therefore be seen that the Covenant does not attempt to set up an ideal system with no difficulties to surmount and no problems to solve, but which is of such a binding nature that no nation can enter it without surrendering its independent sovereignty. What it does is rather to provide improved machinery for international intercourse and co-operation which the great majority of the nations can accept in principle, and

which they can use and develop in practice if the spirit of partnership provides the motive power. Without this motive power the best machinery would never work.

Military and economic co-operation in the present war and the association of a considerable proportion of the public services of the civilised nations of the world in common work at the Peace Conference, have given the idea of international co-operation a working basis which centuries of diplomatic intercouse, diversified by occasional *ad hoc* conferences at the Hague, would never have provided, and have taught the world that a great deal of useful co-operation is possible even when important political differences exist. It is only by such co-operation and by the application of common sense that the real obstacles to international peace and security can be removed.

DISCIPLINE.

"Yet held it more humane, more heavenly, first
By winning words to conquer willing hearts,
And make Persuasion do the work of Fear;
At least to try, and teach the erring soul,
Not wilfully misdoing, but unaware
Misled; the stubborn only to subdue."
—MILTON, "Paradise Regained."

DISCIPLINE is a moral force. It should produce what is higher than *passive* obedience, voluntary obedience. That is the spirit of discipline. A disciplined man is not a forced man. He is a man who acts with a good will, readily, and follows the way of the orders he receives or the rules he is acting under in that spirit. Naval discipline should not be the discipline of fear, but of mutual confidence; it is confidence which raises the *moral* of a set of people, confidence of the lower ranks in the higher, and of the higher in the lower.

Intelligent co-operation is what we aim at, and we try to obtain it through what we call discipline. We can only obtain intelligent co-operation by having men who are intelligent. Mechanical obedience is fatal to real intelligence. It stunts a man's mind, deprives him of initiative, makes him await his orders and never do anything without them; and also obey them to the letter even in circumstances when the orders are obviously framed to provide for wholly different circumstances.

If a man's mind be stunted, and he is dependent always upon a superior, he will have no self-control, thus he will get out of the habit of using his own will. This makes him unable to resist tempations; he gives way to drink, to leaving his place of duty, to not returning to his leave, and other acts of either immoral or insubordinate natures. Such a man is then punished, and the punishment is called "discipline"; but it is the outcome of the wrong method of discipline. Your discipline has robbed him of his self-control, and then in the name of discipline you punish him because he does not possess what you have robbed him of.[1]

The more men think, the more they are encouraged to think, the better will be their discipline. Why? Because they will then discipline

[1] "If you allow your people to be badly taught, their morals to be corrupted from childhood, and then when they are men punish them for the very crimes to which they have been trained in childhood—what is this but to make thieves, then to punish them?"—Sir Thomas More, "Utopia."

themselves. The more a man realises his own responsibilities, the better he will do his work, the more he will understand the need of intelligent obedience. But more. If he is a person in authority he will take care that the orders he gives are wise and well considered, and that he has a good reason for giving that order. *He*, too, will become better disciplined because he will think more, he will ensure that his orders are based on sound principles, aimed only at the good of the whole, and not merely at some fad. If people who have to carry out those orders are also thoughtful men, and have trust in the person over them, they, even if they do not understand the reason, will carry them out.

The officer or petty officer has to establish trust in himself, and he has also on his side to develop trust in the men. Once the officer can trust the people under him to do what is right, one of the first difficulties of discipline is removed. We no longer require a mass of supervision. We do not need patrols, for instance, when officers go on leave, because we trust them to behave properly, not to go outside such bounds as are placed on their liberty. For the same reason we do not send patrols when petty officers land; there should be no reason why we should not be able, if we did but go about our teaching of discipline with broad minds, courage and belief, to do without patrols when anyone else lands. This may sound Utopian, but so have many such ideas before now. The way to bring about this end is by encouraging men to think for themselves, to improve their minds, to make them ambitious, to teach them to govern themselves.

In what does the strength of the British Empire really lie? It lies in self-government, freedom, justice, and mutual trust. Our Colonials govern themselves, we do not interfere in their doings, we encourage them to develop themselves and we keep touch with them. How is it that within 12 years or so of being at war with the Boers we had Boer generals commanding British troops, who are fighting shoulder to shoulder with Dutchmen who were shooting at them only 12 years earlier, men whose Government had been overturned by us and whose territory we had placed under the British Flag instead of the Vierkleur? The reason is that we gave them absolute self-government, trusted them, did not interfere with them, and encouraged them to develop themselves. The fact that a small section of them betrayed the trust by no means detracts from the wisdom of the measure.

What is applicable to a nation is applicable to a community—even to a small community like a ship. As the strength of the Empire rests upon complete trust in the various units which compose it, so the strength of a ship depends upon the same thing.

Trust is the outcome of respect. Respect is not a one-sided affair. It is not only the men and the junior officers who must respect their seniors, but the seniors must respect their subordinates. It is as much

the captain's duty to respect the officers and men whom he commands, as it is theirs to respect him. And he is not entitled to demand their respect merely because he wears a certain uniform. He has got to earn that respect. To do this he must be just, he must listen sympathetically and wisely to complaints, and in all his conduct show that he has at heart the well-being of the ship as a whole, and of the individuals who make up its company. His first consideration is that the ship shall be an effective fighting unit, not only " an " effective one, *but as effective an one as it is possible to make it.* That this should be, his officers and men must know their work and do it well. But men who are not encouraged to think never know their work thoroughly, and if a man is uninterested or discontented he will not do it well. Therefore the captain must encourage his people to think and to make them interested, and wherever he finds discontent must try and get rid of it. Punishment does not remove discontent, though it may prevent the discontent from showing itself. The only way to get rid of discontent is to find out its causes. If the causes are really well founded it ought to be possible to remove them. If bad, it should be possible to show a person that his complaint is either not justified at all, is partly justified, or why it is that certain conditions exist which can't be avoided. The neglect of this led to the great mutiny at the Nore.

So much for the captain's part in the way of deserving the respect of the officers and men. And what has been said about the captain applies all down the scale. It is for the lieutenant to earn the respect of the midshipmen and men under him; for the petty officer to earn it of the leading seamen and men under him. He, too, has got to show himself considerate, thoughtful and just—and above all—*just.* That is the biggest thing of all, and the most difficult. Men often think themselves just when they are being unjust. But it is impossible always to be right—even our Judges in the highest Courts in the Kingdom sometimes fail, for we see their decisions reversed in Courts of Appeal. But this, so far from discouraging us, should encourage us to take extra pains to be just; for a man punished on board has no Court of Appeal—or rather, he has one, but it is so difficult to make his appeal and he is so inclined to think that if he does appeal he may be looked on as a sea lawyer and have a " down " put upon him, that he rarely does appeal. Therefore it is all the more necessary for the officer and petty officer to take great pains to be as just as he can.

But now what about the other side? Respect has to be mutual. It is not only the officers and petty officers who have to get the respect of their subordinates, but the subordinates have to get their respect. An officer ought to be able to respect the man. When he respects him it means that he believes in him, he trusts him; and if the man can earn that trust, and if by his general conduct, unselfishness, manliness, courage, devotion to duty, and so forth, he shows himself that finest of

all things, a man, then he obtains his superior's respect. It is impossible not to respect many of the men with whom one has been shipmates. Upright, truthful, brave, respecting themselves and with a proper sense of their own dignity, no one but a fool would pretend they were not the equal of any men on earth. How greatly the officers of the Army respect their men can be seen in any newspaper of the last four years.

On the other hand, a man who cannot go ashore without filling up with drink, cannot be trusted to come on board when his leave is up, cannot be left alone to do a job of work, cannot be trusted to do his utmost when he *is* at work—that man can *not* be respected. Probably his own topmates do not respect him. What is to be done about such a man? He is one stumbling block of discipline; the officer who does not know his work or doesn't do it conscientiously is another. Those people undermine discipline badly.

Discipline is not based upon punishment but upon mutual trust and respect. That it does not depend upon punishment—though sometimes punishment does have to be used, unfortunately, because men have not all learned the need for obedience—is seen by the fact that the Service can proceed with very little of it, if it be rightly used. In the eighties, blockade was maintained on the coast of East Africa against the slave traders. A whaler or a cutter used to go away for six weeks, in charge of a midshipman. The young officer had no powers of punishment, but discipline never suffered. If he was a good officer he was trusted; he thought of the comfort of his men, they knew it, they obeyed him and followed him anywhere. Character, the power to lead and not the power to punish, furnished him with the means of maintaining discipline.

Punishment is really the last resource of discipline, as the policeman, or the force he represents, is the resource of law. It stands in the background for those people—whether officers or men—to whom the appeal to duty has no attraction. But punishment needs the most careful handling. Insufficiently considered punishments harm discipline, making men callous, and doing nothing to raise the moral tone of the men. For serious faults, faults which show a man to be impervious to any attempt at remoulding his character, altering his point of view, punishments should be severe. For small faults it is preferable to try to cure men by other methods. But when an accumulation of faults for which admonition has proved useless, a heavy punishment which shall astonish the man by its severity and inflict a shock upon him, in the hopes that it may make him wake up to an understanding of the need for reforming himself is needed. The fault of over-punishment was pointed out by no less a disciplinarian than St. Vincent, who recorded a case in which a man was hanged for desertion, and immediately after carrying out the sentence the execution party themselves deserted!

The objects of punishment should always be clearly kept in view. It has two objects:—(i) To prevent the man himself from repeating the

offence; (ii) to deter others from committing it. It is in consequence of the necessity of the second that a more severe punishment than is necessary to ensure the first may have to be inflicted. Thus, there may be a wave of leave-breaking passing over a ship—owing, suppose, to long absence from a spot where any recreation has been possible. Both good men and bad may lose control of themselves. While it is very likely that there may be numbers of the good men who themselves will be alive to the wrong they have done, and by whom a repetition of the offence is not likely, and therefore a severe punishment may not be considered necessary to deter *them* from doing the same a second time, yet to deter other men—good or bad—from doing the same a severe punishment may be necessary; the man himself has to provide an object-lesson for others.

Now perhaps it may be said these principles will cause unrest, cause men to want to change their conditions, make them discontented, make them think of complaints, make them discuss things among themselves and criticise. Is this so? Men ought to have a wholesome feeling of wishing to improve themselves. What is the good of any man who spends his time like a cow in the field, contented to do no more than eat his breakfast, dinner and supper and go to bed at the end of the day, and to go on doing that from year to year? How does he help the country? How does he make a happier life for himself, and how does he help to make the ship he is serving in more fitted to fight the enemy? He does not. Nor is he a better citizen. Let us suppose that all the men of England were content to sit on their sterns and let the wind blow them along; where would England be in a few years? Think of who the men are who have made this Empire, the men who were not content, the men who wanted more than a cow's life: Clive, Warren Hastings, John Smith, Lord Strathcona—the host of Empire-builders without whom Britain would still be a small group of islands on the outskirts of Europe. With examples like these, who can defend the principle that men should be kept in ignorance, contented with what they have got? This by no means infers that it is thought a good thing that men should be discontented. But that is quite a different thing from saying that they should not be contented with remaining on the bottom steps of the ladder, eating, drinking, sleeping—and eventually dying. There is all the difference in the world between moral and immoral unrest, as the Bishop of Birmingham has convincingly explained.[1]

Then as to discussion. Healthy discussion never does harm. It opens men's minds—and by men is not meant ratings on the lower deck only, but "men" in the general sense—grown-up males, whether seamen, stokers, marines, or their officers. But the man who preaches discontent or tries to organise discontent with the things that are going on, for him there is no place in a fighting Service—nor, indeed, in civil life—

[1] "Labour and Capital After the War." S. J. Chapman.

and he is not to be tolerated. But men who think over and discuss means of improving their own efficiency, the fighting efficiency of the ship, do not do harm. They air their ideas. Where ideas are extreme they get discussed and modified. It may be that some good proposal may be made which will find its way to people in authority who in turn may act upon it. Senior officers receive suggestions from their juniors and indeed expect them to offer suggestions. If men feel that suggestions are welcomed, they will discuss them among themselves and their ideas will reach their seniors. If everyone, for example, when at general quarters thinks what it will really be like in action—a shell bursts here; what would minimise its effects? Shot mats hung up, perhaps. Where would you keep them? How hang them up? How provide against their catching fire? Where would you put the wounded of your gun's crew How would you act in case of fire? We have to think of all these things, and a boy may have as good an idea as his superior. Something may strike him which has not struck his petty officer or his lieutenant. A ship where that idea of co-operating, that trust between junior and senior exists, is sure to be a well-disciplined ship.

To repeat what was said before, mechanical obedience is not good discipline. Thoughtful obedience based upon understanding, upon keenness, upon a real sense of duty *is* a good discipline. Punishment is not discipline. It is a rough and ready way of exacting obedience. A much better way than punishment is education, teaching men what is wanted, making them respect themselves and making their officers respect them; once a man respects himself he will want to be trusted. He will determine to *be* trusted. His self-respect will prevent him from doing vile things, and he will look upon not being trusted as a punishment in itself. There is no reason why this should not be done. Of course, it cannot be done by the men themselves only. The officers must all have the same idea, the same aim. They must help their men, the petty officers must help the youngsters. To skulk must be shameful, the feeling of the men must be against it; everyone knows what the force of public opinion is. If public opinion lays down that the first thing when you go ashore is to get drunk and that a man who does not do so is a poor creature, men will do it—we are all very like sheep. But if the public opinion is that a man who does that disgraces his ship, disgraces his own cloth, he won't do it. A hundred years ago it was the fashion of the upper classes to get drunk. A man who could not stand drink was thought to be a poor creature. But public opinion now says that a gentleman must not get drunk, it is looked on as bad form to get drunk, and drunkenness under the driving force of public opinion has died away to a great extent. There is a great difference between the Service in that respect now and even 30 years ago—all brought about by public opinion.

A man on the lower deck can be just as much a gentleman as anyone else—we know plenty of gentlemen on the lower deck, men whom we

honour. We wish to see as many as possible in a ship: the more there are the better will discipline be. And the more the men seek to improve themselves, to read, to keep a high ideal, to help each other, to have always in view that each one can help the Service and make the Navy a happier Service, the better discipline will be. And, what we all want and all work for, our country will be the better defended.

The following extract from the *Times* is worth reading in the light of these remarks:—

"For some time past I have never spoken with an officer of troops which had just been engaged without sooner or later asking the question point blank, 'And what is your real opinion of them? Are they as good as we believe?' I wish it were possible to give all the answers. My game is to see if I can find a discordant note; but there is no echo of one anywhere. Most commonly the answer is very brief: The men are 'splendid' or 'magnificent,' or 'heroes all of them.' Often an anecdote follows—not seldom a dictum which is worth recording.

"I have told before of the officer who said that he had never dreamed that a man could be so proud of anything as he was of the men he led. Another told me he did not know how he would ever bring himself to speak harshly to one of his men again, after the way he had seen them behave. More than one has told me that it humbled him to think that he was in command of, and expected to set an example to such men as his. One said he did not know how his men did it. 'For an officer,' he said, 'it's comparatively easy, because he knows that if he fails everything will break. But how the individual men, who haven't the same responsibility to sustain them, do it, is what I shall never understand.'"

SOME IMPRESSIONS OF THE WESTERN FRONT.

By a Naval Officer.

The writer was fortunate enough to be on leave shortly after the armistice was signed, and at once set to work to get permission to go to France to inspect the battlefields and, if possible, to get an insight into the working of an army staff on the spot.

One of the principal defects of our education is our ignorance of the sister service. We meet army officers always off duty, who are usually as adverse as we are to talking "shop" when on leave; we read of the duties of an army staff in technical books whose very complexity baffles the simple naval mind; but of actual experience with the army at work we must confess our ignorance.

This lack of knowledge has been a serious handicap in combined operations such as the Dardanelles and the first stages of the Mesopotamia campaign, where even an elementary acquaintance with the organisation and requirements of an army division in the field would have saved many blunders and delays.

Inspired, therefore, by a commendable zeal to remedy previous educational omissions, and not without an *arrière pensée* of enjoying himself whilst doing so, the writer put the vast machinery of the Permit Office in motion.

A mere layman might well be excused for imagining that it would be a simple matter for a naval officer on leave to visit a brother in the Army in France. In so thinking he would be grievously in error.

After long wanderings in the Admiralty maze, the C. and W. Department (Commission and Warrant) was at length discovered. The civilian boss being out, an apparently intelligent subordinate stated that the first preliminary was a passport. So to the passport office in Victoria Street, where a frenzied mob of some 7,000 people were attempting to enter a small room where sat a few harried officials snowed under by a shower of documents and official forms.

A day was thus wasted in trying to achieve the impossible, and next day, on revisiting the Admiralty, superior intelligences had been at work, and it was stated that passports were not necessary, and never had been, for naval officers. An invitation from a general, however, was an essential. It was vain to point out that the written invitation came from a brother who was a colonel and a chief of staff, and had rung the gamut of all ranks, from subaltern to brigadier-general. He might have been a field-marshal a month ago, but if his present rank was colonel, the

invitation was valueless. Accordingly a telegram had to be sent to the General Commanding the — Division, and two more days were wasted.

When this was received, the Second Sea Lord's permission to leave England had to be obtained, in addition to one's own admiral's consent.

Armed with all the above, the Military Permit Office was approached. Here the precautions taken to guard against German spies travelling to France in the guise of naval officers are exceedingly elaborate. Provost-marshals, adjutants of the forces in England and in France, transport officers, harbour masters, even those much-abused officials, the R.T.O.'s, all had to be warned and instructed; even the general's invitation had to be checked by the local provost-marshal of the district in France. Telephones and telegrams were kept going busily, and at the end of four days of travail a small military passport was forthcoming.

The bearer was authorised to travel in the zones occupied by the British Armies, the permit had to be produced on every occasion, and frightful penalties were imposed on anyone who sold or exchanged this priceless document.

It says much for the practical temperament of the non-official Anglo-Saxon that this permit was put in the writer's pocket-book and did not again see the light till back in London, when it had to be returned whence it came.

Its actual value was of the "moral" order, estimated by Napoleon when comparing it to the physical as three to one.

Indeed, although unused or unneeded, in this respect it played its part, and the writer's sense of rectitude was only slightly upset on returning to his club, where he met a brother naval officer just returned from the Rhine, who was ignorant of all the great forces to be put in play, and whose only aid had been a keen sense of enterprise and the possession of a famous admiral's india-rubber signature stamp. But that, as Kipling says, is another story.

Seven days out of fourteen days' leave had already elapsed, but everything comes to him who waits, even a South-Eastern and Chatham Railway train.

Charing Cross was left at 9 a.m., and all in its own good time the express arrived at Folkestone, to catch the staff steamer. This is exclusively reserved for those privileged set of beings, the "brass hats," to which the writer is fortunate to belong.

The passage was smooth, o.c. 2-3 we should have logged it, but not sufficiently smooth to prevent a great loss of dignity on the part of several senior military officers. This susceptibility to seasickness is a never-failing source of wonder to the naval officer.

Another thing which strikes one is the difference between the soldier's and sailor's attitude towards a ship. The soldier's first instinct when a ship is in any peril is to leave her, the sailor's instinct is to stick to his ship as long as she is above water. To a sailor a ship is his home,

the sea is his enemy, and he will not enter the latter till the former is far gone.

In shipping disasters soldiers lose their lives by jumping from a ship too soon (the Manitou is a good case in point), sailors by staying too long aboard and being taken down by suction.

This Channel passage, short as it is, has its advantages. It emphasises to all who cross, by practical demonstration, that we are an island, and therefore must be, before and above all, a great sea power, and, brief as its discomforts are, it gives the military officer some idea of the perpetual hardships and dangers of a naval officer's life. As a distinguished general said, in between his bouts of *mal-de-mer*, while he watched the escorting destroyer pitching and tossing on our bow, "Fancy *living* your life in a thing like that."

Boulogne was reached as it got dark, and a staff car was waiting for us. As the — Division were 100 miles distant and the road lay through many historical battlefields, we postponed our departure till the early morning. A large officers' club has been built at Boulogne for officers awaiting passage, and here we spent the night. There must have been two or three hundred officers collected there, and their talk was all of the last great pushes. It is in such places that you hear the inner history of the war, the stories of incredible adventure and escapes, of unrealisable perils and dangers.

The most picturesque of modern correspondents, in spite of his columns of word painting and vivid description, cannot convey the impression which some artless subaltern creates by his naïve and callous relation of facts; these are the men who have done the deeds, that the journalist has only watched. Consequently, their recital to fellow-warriors is a narrative of impressions actually received, and with which the listener is conversant; the effect on a third person listening is much the same as is created by the great Greek dramatists, where the intense dramatic effect is produced by the working of an inscrutable fate, indifferent alike to men and their motives.

Here also the strategy and tactics of superior officers hardly receives the applause which is accorded them in official reports, and to which they are probably entitled. An old naval captain used to quote, "Where there are two or three young officers collected together there is mutiny in the air," and his remarks would seem to apply equally well to the sister service.

We left Boulogne early next morning, and passed through miles of beautiful rolling country on our way to St. Omer. Groups of German prisoners, at work on the roads and in the woods, were the only signs of war.

St. Omer was once early in the war, the headquarters of the British commander-in-chief, and is far removed from the war zone.

Its detachment from the stress of battle is very typical of the essential difference of conditions under which naval and military leaders fight.

An admiral is in the thick of the fray himself; his is the most exposed position, the post of danger, for he must be on the upper bridge in order to obtain a clear field of vision. The conditions of a sea battle change very rapidly, so he must not only be a supreme tactician, but he must also be a man of very prompt decision.

A military commander-in-chief works in comparative safety (St. Omer was only occasionally bombed), and has time to consider and reflect. His principal *rôle* is that of the strategist, and the tactical problems and quick decision in the field of battle fall to the lot of the divisional and brigadier-generals.

No doubt the anxieties and responsibilities of each are equally great, but history assesses their comparative difficulty by handing down the names of those who most successfully overcame these difficulties.

In the history of the world we hear of many famous generals; the famous admirals can be counted on the fingers of the hand.

After leaving St. Omer we entered the back area of the war, where the enemy aeroplanes had been at work; as we progressed we got into the heavy artillery area, where only the very long range shells had fallen, and then suddenly one entered the war zone.

It is quite outside the scope of the present writer's ability to give any idea of what a modern battlefield is like.

The prophet Daniel probably got as near to the perfect description as anyone by his phrase, "The abomination of desolation." The writer visited many historical battlefields, but ever the phrase seemed apt.

As far as the eye can reach stretch miles of waste land, once so highly cultivated, pitted by enormous shell holes and gashed by long lines of trenches. Row upon row of rusty barbed wire stretch in every direction, and before important positions the rows become thickets of staked entanglements.

Not a house is standing, the villages are but heaps of rubbish, with not one stone left upon another, and whose identity would be unknown save for the significant sign, "This *was* the village of ——." The grass has all been killed by poison gas, and the very earth is dead, as the chalky unfruitful subsoil has been thrown up on to the surface by digging and explosives.

One can stand on the parapet of a deserted trench, surrounded by all the flotsam and jetsam of war, and see no sign of life, but only of death.

An acute sense of unreality seizes one; one feels that this horror must be a bad dream; but the dead horse to windward brings one speedily back to reality.

The whole aspect of a modern battlefield is monstrous, incredible. The thing has to be seen to be realised, and for that reason only all

naval officers would do well to visit France as soon as possible before the cleaning-up process has entirely changed the face of the latest scenes of combat and before they have been purged of many of their horrors. Then and then only will they realise what our soldiers have endured and how greatly they have triumphed.

War at sea is a pretty grim business, but thank heaven the sea covers our handiwork and takes our dead fittingly out of our sight.

Visits were made to many of the enormous dug-outs, some of which were capable of holding a whole battalion, and which were lit by electric light; also to the big mining tunnels.

The Army has been as well served by its engineers as we have been by ours, and I expect, as with us, the lion's share of the credit has often gone to the man on deck.

The headquarters of the — Division was eventually reached before dark. The town of —— had not suffered very severely from the war, only about one-quarter of it had been really straffed. The divisional general had secured a large house, whose only disadvantage was that one of our 9.2 shells had gone through the roof, penetrated each storey, and burst in the basement. Otherwise it was very comfortable.

Only a short time previously this house had been the headquarters of a German army commander, who had to evacuate the house in such haste that his myrmidons had not had enough time to carry out their usual senseless policy of destruction. Fortune makes strange bed-fellows, and brings strange changes to beds. The writer occupied his bedroom, feeling some consolation in the thought that sea-power will always vanquish land-power.

The three brigades which formed the — Division were billeted out in the neighbouring villages. Billeting, unlike kissing, does not go by favour, and divisions have to take their luck. Some get undamaged towns, some get wrecked villages. The famous — Division was dwelling in a roofless area; the little-known — Division was sumptuously housed in two large undamaged towns; but with us, as long as admirals go to sea so long will flagships always get best berths in any harbour. That night at dinner it was very amusing to be bombarded with questions about the Navy which were such *vieux jeux* that one had almost forgotten them: "Who *really* won the battle of Jutland?" "Was the Audacious really sunk?" "Had Hun submarines really been properly straffed," etc., etc.

Even staff officers seem to have only the haziest conception of what naval officers do in war time, and are as ignorant of our methods as we are of theirs. They all seem to have an unbounded faith in the Navy, and did not seem at all to realise the intense admiration that we sailors have for the Army. For there is no gainsaying the fact that the Army has done the fighting, whilst the Navy has done the watching. A few cruiser actions, the battle of Jutland, some skirmishes between light

forces and vicarious submarine huntings are the sum total of our actual fighting activities. The rest is a long record of patient patrolling in all weathers, and constant readiness at all times. We achieved a moral superiority to the enemy from the beginning of the war, and we maintained it by such prodigious exertion that at the end we were dismayed to find we had achieved a moral victory instead of having the satisfaction of achieving an actual victory by fighting.

The Army, however, has won no such bloodless victory, but through four and a quarter years of unceasing combat has beaten the enemy at last to his knees in defeat.

Moreover, it must be admitted that the lot of the average soldier is much more uncomfortable than that of the sailor. The former lives in damp trenches and dug-outs, has to undergo great physical exertions, often on reduced rations, whilst the latter, however unpleasant his watch on deck may be, always has a warm meal and a hammock under his lee.

During the tour of the battlefields two things were particularly striking. First, the splendid physique of the troops. When a battalion marches by, every man looks so tremendously fit and so cheerful. The English may not be a particularly handsome race, but the smiling open faces of our soldiers are a great contrast to the sullen, animal-like expression of the German prisoners, even allowing a certain amount for the natural resentment felt by all captives. Second, the extraordinary mobility of heavy artillery. The R.H.A. batteries of 15-pounders, drawn by light-draught horses, are, of course, proverbial for their ability to go anywhere, but it was a revelation to see the big howitzers rolling along the wonderful pavé roads on the way up to the new Rhine frontier. The extraordinary mobility of the big howitzers is due to an ingenious device which enables the gun to be transported in several pieces.

The following list of army artillery in use on the Western Front may be of interest:—

Type.	*Transport.*	*Personnel.*
15-pounder	6 Light Draught Horses ...	R.H.A.
18-pounder	6 Light Draught Horses ...	R.F.A.
4.5-inch howitzer ...	6 Light Draught Horses ...	R.F.A.
60-pounder	8 Heavy Draught Horses, or Motor Lorry	R.G.A.
6-inch howitzer	8 Heavy Draught Horses, or Motor Lorry	R.G.A.
6-inch gun	Caterpillar	R.G.A.
8-inch howitzer	Caterpillar	R.G.A.
9.2-inch howitzer (2 pieces)	Caterpillar	R.G.A.
9.2-inch gun	Railway mounting only ...	R.G.A.
12-inch howitzer (3 pieces)	Tractor drawn	R.G.A.
14-inch gun	Railway mounting only ...	R.G.A.
15-inch howitzer... ...	In several pieces drawn by 5 tractors	R.M.A.

Notes on Artillery.

The general appearance and upkeep of all the guns is excellent, and they are kept as clean and smart as any of our big turret guns.

The war afloat has taught us the extreme value of speed in ships. A now-discredited school of thought held that speed gained at the expense of gun power and armour defence was unjustified.

A modern battleship is, above all, a compromise, in which offensive power, defensive power, speed, handiness, seaworthiness, and radius of action have each to be considered; the fallacy underlying the theories of the slow, heavily armed and armoured ship was that it assumed that both sides wished to fight. In such a case obviously speed loses its tactical advantage to a great extent, and it is only the unwillingness of the German fleet to fight that has given the factor of speed an enormous preponderance in the constructional compromise of our latest ships. It must not be forgotten, however, that, whatever the situation, speed will always give the great tactical advantage of concentration. With army artillery, radius of action is of slight importance, as stocks of fuel are easy to obtain, but what we call speed and seaworthiness come under the military title of mobility.

There is no doubt that this factor of mobility has been very much helped by the road construction of France. The great Napoleon recognised the value of good communications, and built those wonderful straight pavé roads which run for miles without a turn from one big town to another in France. Their never-ending length may appal the eye of the lover of landscape, and the pavé may be hard on the horse's legs and disturbing to the liver of the traveller, but the roads have probably done more to defeat the Germans than anything else.

Their one snag is that if you skid off the pavé into the quagmire alongside you stay there until a breakdown gang or a powerful salvage tractor arrives to get you out.

Mobility, therefore, ensures rapid concentrations of heavy artillery, and one has only to study a modern barrage chart to realise the value of this.

The writer was taken over the Canal du Nord battlefield by an artillery officer, and the system explained on the spot. The artillery concentration here had been terrific, guns being placed wheel to wheel in tiers according to their calibre. It is impossible to describe in the limits of a short paper the details of how a big moving barrage is worked. Anyone who is conversant with the complicated fire-control arrangements of a modern battleship will realise this.

It is enough to say that it is the most wonderful scientific set piece that can be imagined; remorseless in its execution, and taking a heavy toll of life for the smallest errors in calculation, it is the conqueror of those prodigious field fortifications that at one time threatened to stagnate the whole movement of armies in the field.

This particular barrage was very interesting, as it had to swing round to the flank half an hour after zero time, and it says much for the con-

fidence of the infantry that one division had actually to march round the *far* side of the barrage in order to outflank a strong enemy position, which they did successfully.

We have no experience of this kind of work, the only barrage system ever used afloat being the secondary armament barrages against attacking torpedo craft, and this procedure is not without its hostile critics.

The F.O.O. (forward observation officer) when carrying out an ordinary shoot is in a position more akin to the gun control officer aloft. On his spotting ability the success of the shoot will depend, but the F.O.O. is uncontrolled by that bugbear of the naval G.C. officer, viz., rate of change of range.

Fuses have also been as great a source of trouble in the Army as with us, the difference being that their fuses were too heavy and ours too light.

A heavy fuse explodes the shell when it has penetrated some distance in the ground. This not only makes a large crater which impedes the advance of our infantry and tanks, but it also renders the burst much less harmless to personnel.

The new 106 fuse used with most types of shell is an instantaneous action fuse. It was originally invented some time ago, but was too dangerous for adoption until the present safety device of a tape which unwinds after firing was perfected.

This fuse has revolutionised wire cutting, as it will burst on contact with a single strand of wire. It is also very effective against personnel in the open, even more than shrapnel, as it bursts instantaneously on contact with the earth, dissipating its energy outward in the air and hardly cratering the ground at all.

Perhaps in one's enthusiasm for the scientific methods of the army artillery one is apt to forget which arm really is the decisive factor.

All naval officers, even the torpedo experts, are at one in admitting that the big gun is the decisive factor afloat. The heavy battleship is the supreme arbiter, the real mistress of the ocean. But on land, opinion is equally emphatic as to which is the supreme arbiter. Everything in the long run depends on the infantry, and the bayonet is still the queen of weapons. In saying this the word bayonet should be understood to mean the actual individual hand-to-hand fighting which calls for the real determined courage of the fighting man. In traversing the long, sunken lanes round the villages on the far side of the Canal du Nord one came upon many scenes of desperate hand-to-hand fighting. Barricades had been erected in the streets, houses turned into little fortresses, short lines of trenches covered every approach. All these had to be stormed and taken by the individual infantry soldier, and often villages changed hands several times in the course of the day. The actual sight of the scenes of struggle brings the fact home to one that it is the sheer, stark fighting spirit of the men themselves and of their infantry officers that decides the issue of the land battle.

With us, how different! We do not fight to destroy men, we fight to destroy ships. If the ship sinks and her crew is lost, we are sorry for that crew, but it can't be helped.

Thus the whole of our outlook is different, and the training of our men is governed by it.

We require primarily and essentially a discipline which produces calmness and obedience. The captain's will to fight is the ship's will to fight. Once in action, everything depends on the proper and prompt carrying out of many orders, so that the whole vast complexity of a modern floating fort can be developed to its utmost efficiency. Anything which tended to produce the excitement of the blood lust, which good army company and platoon leaders seek to arouse in their men, would be fatal to the disciplined gun and torpedo control of a ship.

Thus we find that the sailor and soldier, though drawn from a common stock, are two quite different types. The British sailor is as admirable in his element as the British soldier is in his; and, conversely, the sailor ashore is as unreliable as the soldier afloat.

This fundamental difference is, perhaps, the fact that impresses itself most on one's mind on a visit to the armies in the field. It may be added that the psychology of the airman is probably most akin to that of the trained sailor, as the airman fights primarily to down the hostile aeroplane and not to kill its occupants, and experienced fighting pilots, such as Ball, McCudden, and Bishop, in their reminiscences unconsciously endorse this.

Staff work in the Army has been brought to a high pitch of perfection. In the Navy, due to the self-contained nature of a ship, and the fact that fleets were previously small and capable of being handled and organised by the man, staff work is still very much in its infancy.

In both services the staff officer is an amateur, for the expansion of the New Army has outpaced the original small supply of trained staff officers.

In both services, however, thanks to that talent for improvisation which is peculiar to the Anglo-Saxon, the results have surpassed expectation.

What probably strikes a naval officer most is the way the problem of "traffic" completely dominates the situation.

The seas are broad and open, and we have no concern with the difficulties of traffic. Ashore, however, the whole question of good communications, of advance and retreat, of supply and reinforcement, depend upon the organisation of traffic. At every crossroad full directions are put up and certain roads are allocated to eastbound, others to westgoing, transport. This is apt to lead the sightseer by many roundabout ways, as it is sometimes necessary to go twelve miles by road to visit a place two miles off, which may be connected by a road dedicated to traffic in the wrong direction.

For communication between units motor cars and motor bikes correspond to our boatwork. The divisional staff are allowed six motor cars; the brigade staff, to their disgust, are not allowed any. As everybody wants them at the same time, and five out of the six are usually in the repairing garage, it can be understood that the art of "wangling" a car is as difficult as that of "cadging" a boat from a reluctant commander.

Traffic, operations, communications, supply, etc., are all dealt with by the divisional staff, the brigade staff doing only the more detailed work for the brigade.

An army consists of several army corps (each commanded by a lieutenant-general). One army corps usually consists of three or four divisions.

The division is thus the largest self-contained unit in the field, and now consists of:—

(1) Three infantry brigades, each brigade having three battalions of about 900 men each, and a light trench mortar battery (Stokes gun).

(2) Divisional artillery, consisting of two brigades of field artillery, a medium trench mortar brigade and a divisional ammunition column. Each field artillery brigade consists of three batteries of 18-pounders and one battery of 4.5-inch howitzers. The medium trench mortar brigade is armed with twelve 6-inch Newton trench mortars. Divisional ammunition column is composed of two sections to supply gun ammunition and one section for S.A.A., grenades, etc. (NOTE.—Heavy artillery comes under the orders of corps staff, except during mobile warfare, when a certain proportion is put in the hands of the divisional commanders).

(3) Machine gun battalion of four companies armed with 16 Vickers-Maxim machine guns each.

(4) Divisional engineers. Three field companies of about 200 men each.

(5) Divisional pioneer battalion.

(6) One signal company, who run all communications in the division.

(7) Divisional train to supply rations and provide second-line transport for carriage of baggage.

(8) Royal Army Medical Corps, composed of three field ambulances.

(9) Mobile veterinary section, who collect sick and wounded animals, etc.

Before the war reputations went by regiments, but in a war of this magnitude the regiment has been merged in the brigade and the brigade in the division.

The division is the unit which creates a reputation for itself nowadays, and the divisional *esprit de corps* is most marked. It seems a great pity that some of these famous divisions, it would be invidious to name them, should have to be broken up and dispersed later on, but doubtless their fame will continue in regimental records. Regimental *esprit de corps* seems to be irrevocably allied to the regimental system of promotion, and the edict had just gone forth from army headquarters that in the future, officers' promotions would be obtained regimentally. This provoked a good deal of discussion at the divisional headquarters, where staff officers learn to think divisionally and not regimentally.

Our methods of promotion by selection from the whole list of officers serving was universally commended, as it gives a capable and intelligent officer a good chance of getting on and he does not stagnate as do so many regimental officers in the Army. The staff college is now the only opening for the aspirant to the field-marshal's bâton, and although many be called few are chosen, and one fears that, though regimental *esprit de corps* will benefit, the Army as a whole will lose by this decision.

We may consider our system of promotion by selection to be at times capricious and conducive to favouritism, but on the whole it works very well, and is a great incentive to keen officers.

The following list of officers on a division and brigade staff is of interest when compared to our meagre naval staffs afloat. It will also be seen that the Army titles are somewhat inclined to be cumbrous, and their holders are always referred to by their initials, a fact which tends to bewilder the naval visitor.

A divisional staff consists of :—

1 Major-general (general in command).

1 G.S.O. 1 (lieutenant-colonel).

1 G.S.O. 2 (training).

1 G.S.O. 3 (maps and intelligence).

1 German-speaking Intelligence Corps officer.

1 Assistant adjutant and quartermaster-general (lieutenant-colonel).

1 Deputy assistant adjutant-general (discipline, promotions, etc.).

1 Deputy assistant quartermaster-general (transport, supplies, ammunition, etc.).

In addition to these, attached to the divisional staff, there are :—

1 Assistant director of medical services (in charge of medical arrangements).

1 Deputy assistant director of ordnance services (in charge of ordnance matters).

1 Deputy assistant provost-marshal (in charge of military police).

1 Deputy assistant director of veterinary services (in charge of veterinary arrangements).

Co-operation between the various departments was very good, as all the staff worked in one building.

The telephone is an essential instrument for modern staff work, and the telephonic exchanges and communications are exceedingly well organised.

The signing of the armistice had caused the staff officers of the division metaphorically to beat their swords into ploughshares; that is to say, they were busily engaged on the peaceful but arduous problems of demobilisation and with organising theatrical performances, cinema shows, lectures, sports, games, etc., anything in fact to keep the men amused and contented.

The victorious conclusion of the war also unloosed their tongues on many of the " accidents " of the war, most of which ended in tragedy. Some, however, were very comic, as, for example, the story of the brigadier who stormed and captured at the point of the bayonet a village four miles behind our firing line (fortunately without artillery preparation), or the tale of the female tank which took the wrong turning, and many others (the best ones being unprintable) well known on the Western Front.

The fourteen days' leave was drawing to an end, so the writer had reluctantly to bid farewell to his hosts. A passage was cadged in a motor car taking a brigadier-general to Boulogne on leave (thus again avoiding the twenty-four hours' journey in the leave train), and after an uneventful journey London was reached, and thence back to our happy home in Scapa Flow.

ON THOUGHT AND DISCUSSION.

A SERVICE like the Navy, in which discipline is of such supreme importance, is one in which peculiar danger is run of stifling initiative, both of thought and action. Men are prone to grow to believe that not only must they implicitly obey orders, but that they have nothing else to do; that they must not dispute authority by act or opinion. Like the young Indian civilian,[1] "they are taught to do what they are told, which is right, and to think what they are told, which is wrong; and they do." Such a habit of thought is fatal to the progress of a service. Discussion cannot exist under such conditions, and officers become mere automata. The description which the writer quoted gives of the result of an education characterised by such principles, may well be pondered over, and we may consider whether it be not very applicable also to the Navy. "They are taught to repeat in a parrot manner stock phrases, and imagine they are thinking. And this habit, once acquired, is difficult to get rid of." Have not we ourselves experience of men in our own service whose whole strategical knowledge consists in a set of parrot phrases and no more? "Invasion is impossible." "The place of the fleet is off the enemy's coasts." "A sailor must go to sea young." "Trade will be safe, because the enemy's commerce destroyers will be relentlessly hunted down." "The sea is all one." "Never think about ulterior objects." "The fleet has only one object, the destruction of the enemy's fleet." And so on. Many of these are based, or at some time have been based, upon sound principles. In all of them there is a measure of truth, sometimes a great deal more. But when these phrases are made to do duty for accurate and sustained thought they become pernicious, and ruin thought.

Marshal Saxe observed the same tendency in the French Army in the middle of the 18th century. "Gustavus Adolphus," he wrote, "invented a method which was followed by his scholars and carried into execution with great success; but since his time there has been a gradual decline amongst us, which must be imputed to our *having blindly adopted maxims, without any examination of the principles on which they were founded;* from whence proceeds that confusion of customs, which everyone has assumed the privilege of adding to or diminishing at leisure."[2]

[1] "The Passing of Empire," by Fielding Hall.

[2] "The Art of War," Field-Marshal Comte de Saxe. 1758.

An officer is too often content to say: "Here is truth; Mahan says it is so. Who am I to question Mahan? I know that this or that saying is true; I'm not going to bother my head to read a lot of books to prove it, or to argue with anyone who takes a different view. The authorities are good enough for me."

Such an outlook is not uncommon in our service. It is the direct outcome of our system of training, which neglects entirely to provide any teaching in the process of reasoning, devotes much attention to memorising and examinations, and is highly condemnatory of any expression of opinion which clashes with the current dogmas. Many officers may recollect that at the time of the controversy about the new scheme of education, letters appeared in the papers most strongly deprecating discussion, on the ground that the Admiralty contained the "best brains" of the Navy, and therefore any scheme proposed must be beyond criticism. How has experience justified this appeal for sublime faith? Is the scheme even now perfect, and was not this perfect policy reversed very early in so far as it related to the marines?

Lord Charles Beresford some years ago said that the lot of the naval reformer was not unlike that of the early Christians; the comparison was apt, and remains true to-day. Yet the "heretic" is one of the most valuable factors in the preservation of the mental health of any community. If his opinions are wrong, open discussion will disprove them, but do not censor them, or punish him for holding these opinions. Censorship, said Milton in his Areopagitica, conduced to "the discouragement of all learning and the stop of truth." So let the heretic speak his thought, for he may be right, as heretics and iconoclasts from Socrates to modern times have occasionally been. Discussion should indeed be encouraged by every means. "He who knows only his own side of the case, knows little of that. His reasons may be good, and no one may have been able to refute them. But if he is equally unable to refute the reasons on the opposite side; if he does not so much as know what they are, he has no ground for preferring either opinion."[1]

This failure to attempt to get to the bottom of the reasons on the other side is only too common a defect in discussing naval questions. To hold opinions differing from those of the administration has been frequently to court professional extinction.

To impede discussion is to induce mental slavery, the worst form of tyranny that can exist. "There have been, and may again be, great individual thinkers in a general atmosphere of mental slavery. But there never has been, or ever will be, in that atmosphere an intellectually active people."[2] Let then our hierarchy of educators make provision for the encouragement of thought and discussion, than which nothing can do more to assure an intellectually active navy. And let them, above all,

[1] "Of Thought and Discussion," J. S. Mill.

[2] *Ibid.*

encourage the expressions of opinions in writing, which is the most searching self-test of the opinions themselves. "If a man tries to set forth in writing his views about some difficult problem—social, political, metaphysical, or whatever it may be—the very effort that he makes to express himself clearly and coherently will tend to bring order into the chaos and light into the darkness of his mind, to widen his outlook upon his subject, to deepen his insight into it, to bring new aspects of it within reach of his conscious thoughts. . . . The student who wishes to master a difficult piece of bookwork should try to write it out in his own words; in the effort to set it out concisely and lucidly he will gradually perfect his apprehensions of it. Were he to solve a difficult problem he would probably regard his grasp of the solution as insecure and incomplete until he had succeeded in making it intelligible to the mind of another."[1]

No one who has ever really tried to master a problem will deny the truth of that quotation. Those who have had to instruct classes will probably agree that no part of the course was more valuable than that in which they had to make their subjects "intelligible to the mind of another"; and the stupider the person to whom the explanation has to be made, the greater is the test upon the thoroughness of the knowledge of the subject. But with the solitary instance of the lectures given by qualifying specialists, the system of which this is the expression is not made use of. History, that valuable ladder to strategy, is taught not infrequently as a string of disconnected events and not as what it really may be, a philosophic study of cause and effect. Only too commonly, historical lectures are mere relations of facts, the movements of squadrons, the dates they sailed and returned, the ships they sank. But such a string of episodes is not of the smallest value, unless the object of the cruise, its place in the strategy, its results and the reason why these results were produced are brought clearly into prominence. It was the fault of the system which laid down that the lecture was not to be more than a recital of events, and forbade all attempt to read the lessons of history with a seeing eye. A more valueless subject than naval history used in this manner does not exist; whereas, on the other hand, if properly studied, by writing and discussion, history admits no superior in the mental training of officers whose profession is war.

It is a delusion, still entertained, unfortunately by many officers—even senior ones, who should know better—that no need exists for the study of war, and that the word "strategy" is taboo, redolent only of academics. Such people say that commonsense or genius will solve all problems. Commonsense and genius will go far; but both are rare possessions. A genius arises only occasionally, and "commonsense" has

[1] "What is and what might be," p. 85, E. Holmes. John Jewel, Bishop of Salisbury in Queen Mary's reign, put the same idea shortly: "Men acquire more learning by the frequent exercise of the pen than by reading many books."

been defined not inaptly as "uncommon sense," and frequently proves to be no more than "common stupidity." Even if we should find a leader with one or both of these qualities they will not replace hard and diligent study of war. They may solve some problems—they probably will. But they will not solve all, and, above all, they will not furnish the means of preparing for war, in which wide knowledge of principles, a vivid imagination, and power of organisation in detail are indispensable. Nor will genius even solve all current puzzles of strategy that arise in a campaign. Mistakes are bound to be made, even by the greatest captains; and he who makes least wins. We know that Nelson himself did not always guess correctly the enemy's intentions, but we know also how hard he reasoned as to what they were. He proceeded upon no blind intuition, but upon deductions from information from every possible source, and upon a traditional strategy a century old. We know too—as in 1798—how vast would have been, in all probability, the results if he had always reasoned aright. Mahan has an interesting comment[1] upon an opinion of Nelson's in 1796 concerning the French occupation of Leghorn. "This opinion," says Mahan, "was scarcely worthy of Nelson's real native sagacity, and shows clearly how a man, even of genius, is hampered in the conclusions of actual life by the lack of that systematic ordering and training of the ideas which it is the part of education to supply. Genius is one thing, the acquirements of an accomplished (instructed) officer are another, yet there is between the two nothing incompatible, rather the reverse; and when to the former, which nature alone can give —and to Nelson did give—is added the conscious recognition of principles, the practical habit of viewing under their clear light, all the circumstances of a situation assigning to each its due weight and relative importance, then, and then only, is the highest plane of military greatness obtained."

"*That systematic ordering and training of the ideas which it is the part of education to supply.*" How has the education of naval officers attempted to order and train the ideas, to instil "principles" and develop a "practised habit" of weighing a situation? Little trace of it can be found in any part of the education up to the stage at which officers have hitherto been introduced to some form of study of war. And when such study began at the war colleges there were obstacles to the development of the qualities required. One, that the officers were frequently mature, their minds no longer supple; new process of thought, new customs, do not come easily at that stage. "Certainly custom is most perfect when it beginneth in young years; this we call education, which is, in effect, but an early custom. So we see, in languages the tongue is more pliant to all expressions and sounds, the joints are more supple to all feats of activity and motions, in youth than afterwards. For it is true that late learners cannot so well take the ply, except it be in

[1] "Life of Nelson," 2nd edition, p. 199.

some minds that have not suffered themselves to fix, but have kept themselves open and prepared to receive continual amendment, which is exceedingly rare."[1] What Bacon said over 300 years ago remains true to-day. A mind whose attention has been applied to questions of ship organisation, gunnery, electricity, and other technical matters up to the age of 35 or 40 cannot readily adapt itself to new studies; and this drawback to our present system can only be remedied by beginning the study at an earlier stage, as our captains and admirals did in the past, and as every writer on military education has consistently recommended, realising the saying that "if a man applies himself to servile or mechanical implements, his industry in those things is a proof of his inattention to nobler studies."[2]

Another objection is that the work done at the college was not all well calculated to develop the study of war. The hours were long and continuous. Lectures were numerous, and subjects as remote from the conduct of war as "ventilation" have at times found their place in the courses. Discussion was little used. The idea that mastery, or, indeed, a sound knowledge of any subject can be attained by listening to lectures and taking notes on them, cannot be too strongly condemned. A lecture can but touch on the fringe of a subject; it can indicate certain points, draw out certain principles, excite interest—or otherwise. But it cannot replace the hard reading, the persistent study, the writing down, and the discussion of views by which alone a professional's knowledge is to be distinguished from that of an amateur. Any able man with a good memory could make the round of the lecture rooms of London and be able to converse glibly upon astronomy, archæology, art, or aeronautics in a manner well calculated to please himself and to induce admiration among the ignorant. But he will not *know* anything about any of these subjects. Nor will naval officers know anything about war merely because they have attended a series of lectures on "tactics," "cruisers," "submarines," and "international law." Their attention will have been drawn to some points which would, or might, not otherwise have occurred to them, points which will enable them to fix their eyes upon certain principles, perhaps, or awaken their imagination. Valuable considerations for guidance in studies will have been brought into notice, and future reading will be better directed, but no more.

The very art of reading requires to be learned by those who have not been taught how to learn. There are many of us who have read lines of Nelson, Hawke, and St. Vincent, histories of the Royal Navy, or philosophical tracts like those of Mahan on the "Influence of Sea Power." But there must be a very great number of these readers who have never got the marrow out of them, otherwise how could such doctrines find acceptance as some which have influenced us in recent years? How,

[1] "Of Custom and Education," Bacon.
[2] "Plutarch's Lives," Pericles.

for instance, could anyone who had really *studied*, imagine that light cruisers were unnecessary, that our reserves of men were too large, or that a vast number of light craft of all kinds would not be needed in war? Books are indeed only too frequently read merely for their narrative, in which attention is drawn to individual incidents. The manner in which the war was being designed, the inter-relation of the operations in all the various theatres of war, the governing opinions of the time as to tactics and strategy, all of which lie beneath the surface and have to be searched for by each individual reader, are left untouched; and we may close the book satisfied with remembering that Nelson in the Captain "74" engaged the Santisima Trinidad "130" in an uncommonly dashing manner, and that Lord Howe was 68 when he fought the battle of June 1st. We appreciate the determination of Jervis' character in suppressing mutiny, his quaint and kindly humour in the incident of the blue and gold image, but we know much less of his great strategic insight and courage, so marked in particular in 1798, when he divided his fleet in face of a numerically superior force, or of the brilliancy of the operations in the conjunct expedition to the West Indies with General Charles Grey.

This habit of superficial reading and of the substitution of phrases for ordered and reasoned thought leads to indifferent preparation for war. The harm done to our commerce at the beginning of the war by the enemy's cruisers, and the greater harm done later by the submarines, are both traceable to an easy-going acceptance of the theory that a guerre-de-course *must* fail, without examining the reasons supporting the theory. Yet no one will feel inclined to deny that the guerre-de-course took a distinctly threatening form in March and April, 1916, still more so in 1917, and was still a formidable threat in the summer of 1918.[1] In fact, it came within measurable distance of succeeding. These wretched catchwords have the especial demerit of being partly true; they form excellent *motifs* for popular writers; they are useful if confined strictly within their limits; but they are bad mental food for professional officers. An exaggerated acceptance of the theory of "a fleet in being" was largely responsible for the Russian disasters in Manchuria in the Russo-Japanese War; and the same kind of catchword doctrine may be traced in the opinion expressed by the conference of Russian flag officers, which stated that "it was not necessary to naval warfare to draw up a plan of operation beforehand." This opinion has not been unheard of in our own services. It is to be hoped that this war will have demolished it once and for all, for a more ignorant and foolish doctrine could not exist. We are now aware of the importance of the initiative, and that the initiative cannot be taken without plans thought out beforehand.

The silence of a naval officer in a discussion with shore-going politicians is often excused on the grounds that he is not a man of words, but a man of action; and that it is natural that he should not be able to

[1] Note 150,000 tons were lost in September, 1918.

hold his own in a discussion with lawyers and others whose trade it is to talk. This idea that a man of action cannot be a thinker, or capable if he be one of putting his thoughts into words, is curious, in face of the fact that many of the greatest men of action in the world's history have been both thinkers and able exponents of their views. Alexander the Great loved and taught of Aristotle, was both philosopher and rhetorician; Julius Cæsar and Xenophon were great in thought and action; Napoleon, the writer of "Le Souper de Beaucaire," "A Dialogue on Love," and "A Parallel between Apollonius of Tyana and Jesus Christ" was not prevented by his philosophy from being a man of action; Frederick the Great, "the bookish, philosophising, verse-making cynic and profligate,"[1] Saxe, Montcalm, Wolfe, Raleigh—will it be said that any of these, taken at random, could not sit in the War Cabinet and hold his own with all the members of the council in argument? The answer admits of no doubt whatever.

An era of peace is, so far as one can see, ahead of us, for some years at any rate How long it will last none of us can tell. But whether the millenium is about to arrive, and wars to cease, is no matter for us—seamen—even to answer. So long as navies and armies are maintained, the sole duty of those who are employed by the State in the professions of arms is to be efficient—not to say whether armaments are necessary, but to be expert in their employment. Efficiency inevitably tends to fall in peace, since the stimulant of an immediate danger is absent. The most effective, indeed, the only effective, means of preserving efficiency in the absence of experience lies in the study of the problems that will arise if war comes. Imagination—most rare of all qualities in the Anglo-Saxon according to some, though less rare than is commonly supposed—stimulated by the study of experience, must be brought into play, the operations of sea-war must be examined, compared, analysed, and prepared for; that is to say, *thought* must be directed towards what has happened, and those measures which have proved good must be sifted from those which proved bad. The measures taken must be translated from terms of the past into terms of the future, in readiness for use if occasion shall arise. This is a great labour. It cannot be conducted without discussion, patient discussion, not based upon proving that what was done in the war was right, that failures were inevitable, or that other measures were wrong; but in the true scientific spirit in which the chemist works in his laboratory, attempting to discover what is *true*. To stifle this work by impeding discussion, by putting shackles upon thought, by concealing mistakes, is to do the greatest disservice to the State in the future. It was not by so doing that the French Navy recovered after the Seven Years' War[2] and developed into the fighting force, seamanly conducted, so highly praised of Kempen-

[1] "Parkman," Wolfe and Montcalm. Vol. I., p. 20.
[2] "Chevalier." Histoire de la Marine Française.

felt; nor was it by concealment of mistakes and suspension of discussion that the French Army after 1871 was transformed into that wonderful instrument that withstood the strain of the present war and bred commanders so capable as those whose work we have witnessed. To pretend that no blunders have been made in the preparation for and conduct of this war would be foolish. Persistently to close our eyes and refuse to see what all men can see is deliberately to fail in our duty to the State. So long as the nation deems it proper to maintain a navy we must assume that it is necessary and war still a possibility. The years of peace are those of preparation for war, and this preparation can only be adequate and subsequent success attained at the least price, if thought, with its corrective discussion, are encouraged to the utmost. The process of developing the power of thought must be begun at the beginning of the naval officer's career and carried through all its stages. Mechanical methods of teaching, in which memory plays the greatest part, must give way to more intelligent methods. This is the principal work ahead of us.

THE PERSONALITY OF THE BLUEJACKET.

FEW officers of "Britannia" or Osborne extraction have enjoyed the privilege of belonging to a seamen's mess. It might therefore be of interest to place on record some experiences obtained during eight months of war service in a ship which had only one living space, one mess, and one gun. In times of peace she had been a horse-boat, and her crowded hour had been spent in transporting horses from troopships during the experimental landing operations at Clacton some years before the war. Since then she had rested on the mud at Haslar Creek, dreaming of the past, and little thinking that her country's need would transform her into a man-o'-war. Her surprise must have been great when one fine morning in 1914 she was rudely awakened and led gently but firmly to the dockyard over the way. There, in company with two sisters, she was patched up in places, freshened with a coat of paint, presented with a 4.7-inch gun, christened H.M.S. Pet, and generally fondled and caressed in a manner which she had never hitherto experienced. She and her sisters were then lifted to the bosom of a large transport, and before twenty-four hours had elapsed were again deposited in their native element at Dunkirk, where they found themselves the centre of attraction for a large and curious throng of French and Belgian soldiers.

All this is perhaps irrelevant, as we are really concerned with the personality of the bluejacket, and not the horse-boat; however, it will suffice to show the nature of our craft.

We spent a busy ten days at the base fitting out, and before long every corner in the ship was occupied with ammunition and stores. There was not time to consider the question of our own accommodation until two days before we went into action. The only space available was the magazine, a small wooden house which contained 100 rounds of lyddite and charges. It was about the same size as the stern sheets of a sailing pinnace. It seemed to me impossible that ten of us could eat and sleep there, but I was soon to learn. I consulted the coxswain, and found that a scheme had already been devised by the men. Two tiers of folding, detachable shelves were to surround all four sides of the compartment, thus providing sleeping billets for eight. The remaining two were to occupy the deck on cocoanut matting. On turning out in the morning shelves were to be unrigged and converted into tables. This scheme was finally adopted, and it worked very well, provided that a routine of turning out was strictly adhered to; for example, the floor

men were called first, when the deck was clear the top-shelf men turned out, removing their shelves, then the lower-shelf party. The reader will now realise that circumstances placed me in about as close contact with the bluejacket as any officer is ever likely to get.

The first observation worthy of comment is the fact that the bluejacket can adapt himself to any surroundings, and will make himself wonderfully comfortable therein. He is by nature very contented, and his outward growls are no indication whatever of his real disposition. His first comment on any situation affecting him or any novelty is generally a growl, but this simply means that he intends to look into the matter, and if he can possibly adapt himself to it he will be quite happy, but if he cannot he will make a complaint. At first the question of accommodation worried them, but they soon became accustomed to it; in fact, so much did they grow to love their stuffy little "cubby-hole" that they refused to leave it on being offered later on some very roomy and comfortable billets ashore.

During our first few weeks in action there was not much opportunity of studying my messmates, except as regards their job, and in this there was nothing lacking; they were out for blood, and they got it.

This was during the digging in and settling down period after the check to the German advance along the coast. We fired daily from a position near the mouth of the Yser river, and did considerable damage, although generally outranged by the enemy's 8-inch howitzers. Sometimes our firing became, for the gun's crew, a very dull operation, because the men could not see the target, so that their interest had to be kept alive by lurid descriptions by telephone from the observer of the damage done by their last shot.

It was delightful to see the effect of a message of this sort on the men: "Your last shot fell just short of a company of troops; up 50, fire lyddite rapid"; or "You've hit the gun emplacement; stretcher parties are hurrying to the spot; same range, fire lyddite rapid."

Later on, when ammunition grew scarce and our firing developed into a routine, I had more time to study the human side of my messmates.

The most striking feature to me at first was that we seemed to be always eating. Just before daylight, when the hands turned out, we had a bowl of cocoa with biscuits; immediately afterwards (so it seemed) we had a large breakfast, consisting of eggs and bacon collected from a farm behind the lines. In the middle of the forenoon we had what is called a "snack."

Dinner was always ready at noon, even if the air was full of shrapnel and other pestilences. Here I learnt that a permanent cook, having nothing whatever to do with the armament, would contribute largely to the general harmony of the mess. The man selected was in himself a study. He was an A.B. of the type popularly known as "birds." Drink had been his downfall, and always would be, but nevertheless he was an

exceptional working hand, provided he had a job to his liking and was trusted and not worried.

I tried the trusting policy by giving him charge of the ship below, in addition to his responsibilities as cook, and he was seldom seen idle. He was always trying his hand at fancy dishes, but did not seem to have much idea of the fitness of things; for example, with great pride he laid before me at breakfast one morning a "Welsh rarebit," which, of course, had to be eaten. "Welsh rarebit" was a speciality of his, and proved really to be a cunning disguise to a common request. He came to me one day and asked if I thought a drop o' beer would be an improvement to the rarebit!

After dinner there were three more meals to be got through before bedtime. They were impossible to avoid, because a missed meal was always kept, and very often tacked on to the following one.

It is strange how sacred is the dinner-hour to the sailor. I remember one occasion, when we were taking part in an important attack. The time was approximately 12.30, and our gun was blazing away merrily. While the gunlayer fired the loaders munched biscuits. The instant after he had pressed the trigger he carried on eating himself. The men really did not feel hungry; it was merely habit, or even perhaps a hint to their officer that it was past noon and time for dinner.

The conduct of the bluejacket in the mess impressed me more than anything. His table manners are good, and his general demeanour is most gentlemanly.

His references to home life are particularly tender, though perhaps a little "sloppy." Every man seemed to take a delight in unburdening his life history and private affairs to his officer. This is interesting, as it confirms the existence of that spirit of comradeship between officers and men which has virtually won the war. In a big ship it is there also, though opportunity seldom permits its demonstration, except perhaps in games and sing-songs. But in the stress of action it is bound to come out, and is a very great asset to our service.

To the man, the officer, on account of his education, is a person of vast knowledge. There are few divisional officers who have not been approached by their men to settle some small technical argument for them. Out there the officer was expected to know the exact state of affairs along the whole front, what we were doing at sea, how long the war would last, and when there would be a chance of a drop of leave.

Perhaps the most striking feature of the bluejacket is his lack of imagination. This deficiency becomes a valuable quality in the fighting man, because it permits him to sleep when he can and eat when he can, and also gives him a real fearlessness and self-confidence in the most dangerous situations. My impression was that he does not care a whoop for shells, provided he himself is untouched. If the man beside him

gets " blown away " the one who has escaped thanks God that it wasn't himself, and carries on quite cheerfully.

Evidence of this was given one day when the whole crew had to take cover because the gun was being shelled by a battery of 11-inch naval guns. The shells were falling round the boat in groups of four, covering an area of about 150 yards. Perhaps it is necessary to explain that the procedure with the military, when a gun is not actually firing but is being shelled by the enemy, is that the crew take cover at a safe distance. Many a time we have offered thanks for the accuracy of German calibration. On this occasion, while sitting in the dug-out, we became aware that the " chef " was missing. I had my suspicions, for the time was about noon, and, sure enough, we found him in the boat crooning to himself over a stew or " pot mess " (to use the correct lower-deck culinary nomenclature). On inquiry why he was there contrary to orders he replied, " Well, sir, dinner's at twelve, ain't it? " This statement was immediately followed by a Bosch shell which exploded beside the boat, luckily on the other side of the high bank, but the concussion was sufficient to upset the " pot mess " stove, the " chef," and myself.

The situation was so comic that everybody laughed, which shows that although the sailor is lacking in imagination he has a high sense of humour.

Casualties certainly impressed the men, but in a peculiarly morbid manner. They seemed actually to envy the pomp and circumstance attendant upon the funerals of their departed messmates, for they often referred in their letters to poor old so-and-so having been laid to rest with much respect (the French officials, with their proverbial politeness, paid scrupulous attention to elaborate funeral arrangements for our men). The service custom of marching to the grave to the tune of the " Dead march," and returning to that of " It's a different girl again," is typical of the bluejacket's character.

A knowledge of their lack of imagination might save the officer considerable annoyance in connection with routine work on board ship. If a man does not carry out some small job on his own initiative which the officer thinks might have been done, it is well to remember that by nature he is almost incapable of thinking, and if he does think he will generally think wrong. He is very anxious to please, and there is no man who will carry out orders or embark upon the unknown with more cheerful optimism than the British bluejacket.

Continual stress was liable to get on their nerves, principally, I believe, because their stand-easies were affected. An occasional reminder as to why they were there and what they were fighting for had a good influence at such times. They were most impressionable, and the greater the stress the more they become subservient to the will of the officer. This psychological fact is worthy of note, because it always applies to the handling of bodies of men. If the leader is gay, the men will also

be gay. If he is depressed or bored the men take no interest in their work and go about it in a slipshod manner. In general, the attitude of mind of the officer is always reflected in his men, particularly when circumstances are trying.

This may be rightly termed a platitude, but let us never forget, while we struggle to keep pace with new developments in mechanical technique and the art of war, that although weapons may change and new weapons be introduced, the supreme force that wields these weapons is the man. His welfare, health, and happiness should, therefore, always be our chief concern.

THE SPECIALIST AND TECHNICAL PREPAREDNESS FOR WAR.

In his "Naval Strategy" Admiral Mahan has stated that the lessons of war are learnt more often from the vanquished than from the victors. The reasons for this are fairly obvious. The loser is exposed to the most searching criticism, and, in self-defence, puts forward the best case he can for himself. The result is adequate discussion of the causes which led to defeat. On the other hand, victory may cover a multitude of sins, both of commission and omission, and the victor is seldom called on to defend his actions. Even eventual victory will in effect serve to cover preliminary defeat.

Is not the British Navy likely to suffer from this tendency at the present time?

Its work has received universal commendation, while brilliant episodes, such as the Swift-Broke action, the Zeebrugge exploit, and the deeds of the "Q" ships cast such a glamour over the Service that its failures, and particularly its earlier failures, are unlikely to receive the attention they deserve.

In the absence of some stimulus from without, it is not human nature to criticise ourselves too severely. Yet we shall certainly lose the benefit of some wholesome self-discipline if we do not try to remember in what respects we were found wanting in the first months of the war.

The lessons of the war are receiving consideration by committees at the Admiralty, but it is suggested that it would be a healthy sign if there were a more general feeling amongst officers that, in certain matters pertaining to preparation for war, we had been most lamentably deficient.

Even when we recognise our defects, it is so easy to excuse ourselves and put the blame for them on some corporate body such as the Government or the Admiralty. Yet it is difficult to avoid the conclusion that some of our deficiencies were due to the most extraordinary short-sightedness and want of commonsense on the part of naval officers themselves.

Surely this must be very largely so in cases where our technical equipment was found wanting on the outbreak of war. We may argue that the Admiralty would not approve our proposals or that the Government would not vote the money, but there are many important matters in which, if we ask ourselves honestly who was to blame, we must answer that it was the naval officer himself. In this connection we must remem-

ber that, in technical matters, an Admiralty decision is in general the decision of the naval officer.

It is neither possible nor desirable to cover the whole ground of our technical shortcomings, but the writer can recollect his feelings of intense astonishment early in the war when he was reluctantly forced to the conclusion that the British mine was, to say the least of it, not the best of all possible mines, and that the British torpedo could be relied on to miss when run under war conditions at close range; also the curious feeling of futility engendered by the pursuit of a submerged submarine with no other weapons than the gun and torpedo; or by an encounter with a Zeppelin when armed with low-angle guns and with a choice between lyddite, common, or practice projectiles. The equipment of the British submarine with W/T transmitting apparatus capable of a range of about 30 miles is also a matter for earnest reflection, having regard to the duties our submarines were certain to be called on to perform in war. Later the battle of Jutland teaches us similar technical lessons.

Now none of these deficiencies are primarily such that we can shoulder them on to the Admiralty and say that the naval officer was blameless, nor can we excuse ourselves by saying that they were matters of minor importance which, in the long run, had little influence on the war.

Who can measure the moral benefit accruing to the enemy from his discovery that the British mine and torpedo were comparatively innocuous?

As for the want of anti-submarine weapons, the practical immunity of the German submarine from serious attack on the high seas until the middle of 1916, must have been an important factor in leading to the decision to undertake the unrestricted submarine campaign in 1917. It is permissible to wonder whether, had efficient depth charges and anti-submarine organisation existed at the beginning of the war, the German submarine losses would not have been so severe as to discredit the submarine as an offensive weapon altogether.

Although these defects in technical equipment reflect on the intelligence of the naval officer generally, they reflect still more on the gunnery and torpedo branches of the Service.

The defects of the mine and torpedo, point to a complete failure on the part of the torpedo officer to appreciate the conditions to which his production would be subjected under war conditions, or to conduct his trials and experiments under anything approaching real conditions.

It would not have been unreasonable to expect the gunnery and torpedo officers to look on the advent of the submarine as providing a target which would have to be attacked when submerged, or the Zeppelin as a target to be attacked in the air. Yet they provided no effective weapons for dealing with either.

Perhaps the want of anti-submarine weapons is our most astounding defect. Frequent pre-war exercises were carried out to determine the vulnerability of squadrons screened by destroyers, to submarine attack, and it was obvious to those taking part that the submarine was absolutely safe from counter-attack with the weapons then carried by the destroyers. It is well known that destroyer and submarine officers held very decided views on the subject, yet nothing was done to devise an effective anti-submarine weapon.

The reasons for the attitude of the pre-war specialist towards some of the most important problems of modern warfare will well repay investigation. If the causes can be ascertained, the remedy should be a simple matter. It is possible that a half-unconscious feeling of superiority to the non-specialist may have been a contributory factor, but it is considered that the chief cause is the effect on the mental outlook of our system of training and employment of specialist officers.

No one will deny that the gunnery and torpedo officer is highly trained, clever, hardworking, and intensely practical, but it would appear that these qualities have been cultivated at the expense of what is usually known as commonsense and of the quality of imagination. In other words, the training of the specialist does not tend to breadth of mind, nor is this surprising when we consider that his technical training is devoted almost exclusively to detail, and that he continues to deal with details during the whole of his specialist career, which often extends until long after his promotion to commander. In this connection it is interesting to note that, a training devoted to detail does not even ensure that details are properly worked out, as exemplified by the comparative failure of the mine and torpedo.

In addition to this peculiarity of the specialist's training, it is unfortunate that much of his work, including a considerable proportion of his trials, experiments, and practices, has been carried out under unreal and artificial conditions. There is consequently a danger of the whole atmosphere of specialist practice becoming so unreal as to obscure the final objective, which is preparation for war.

For obvious reasons it is not possible always to reproduce actual war conditions, but it is thought that in the past there has not been any very serious effort to approximate closely to these conditions. The remedy must be to reduce the factor of unreality to a minimum and to cultivate the gift of imagination.

It is difficult to determine the extent to which it might be practicable to broaden the basis of the long courses, so as to minimise their cramping effects on the brain without sacrificing the necessary technical education, but it is evident that two years spent in the intensive culture of the practical and the utilitarian must have a warping effect on the brain of even the broadest-minded officer.

Undoubtedly, something should be done to humanise the long courses, but the revised syllabi which have recently been promulgated give no indications of any radical alteration in the system of specialist training.

Under existing conditions the results of specialist training must have a far-reaching effect on the Navy as a whole. Every encouragement has been given to the best brains of the Service to specialise in gunnery or torpedo. The work is attractive and the prospects of promotion better than in other branches, with the inevitable result that the higher ranks contain a very high proportion of ex-gunnery and ex-torpedo officers. A system of education which produces specialist officers with unevenly-developed brains must necessarily re-act on the whole Service by producing officers in the higher ranks with similar characteristics. Yet brains should receive their just reward in the Navy as in most other professions.

No officer with war experience of the British and American navies would suggest for a moment that we should abolish the specialist altogether, neither is it considered that the institution of war courses will prove to be the true remedy. Even the best of war courses suffers from an atmosphere of unreality, and is, after all, only another form of intensive study, which can hardly be the cure for a brain already suffering from staleness.

Assuming that the long course training must of necessity have an unfortunate effect on the specialist's breadth of vision, it should be possible to correct this to some extent by the nature of his subsequent employment, and it is suggested that this can best be done by giving him periodically a complete change of occupation, in order that he may return to his speciality with a brain refreshed and rested.

It is believed that there is nothing so conducive to those qualities of mind and character required of the naval officer, whether specialist or non-specialist, as intimate experience of the sea. There is nothing unreal or artificial about the sea, and the smaller the ship the more does the sea tend to mould the character and qualities of the naval officer.

Now the non-specialist officer almost invariably serves a proportion of his time in small ships; not so the specialist, who alternates between large ships and shore appointments. Further, the specialist in a large ship is very largely divorced from the practical work of the seaman, and there are instances of officers performing specialist duties from the time of their long course until after their promotion to captain.

It is, therefore, suggested that the specialist officer should be given periodical employment in command of destroyers and other small craft, and that this will tend to foster those qualities in which he is now deficient.

The achievements of the destroyers and of the small ships generally during the war have been the admiration of the Navy. The destroyer

officer has displayed the qualities of decision, initiative, and seamanship in their highest forms, and the fact that his success has been due rather to sea experience than to deliberate training, strengthens the argument that it is the habit of the sea which fosters these qualities.

It is urged that periods of small ship command would provide a necessary corrective to those habits of mind which are the product of undiluted specialism, and would induce a freshness of outlook of direct value to the specialist branches.

The value to the individual, from the point of view of his future career, is obvious. The ultimate objective of the naval officer's life is command, and it is suggested that a period of ship command in each rank should be a *sine qua non* for promotion to the next higher rank. Ship command has a subtle influence on the outlook of almost every officer who experiences it for the first time, and it is considered that this influence is entirely wholesome.

Technical equipment should be designed in peace to meet the requirements of war, and it should be no longer possible for our war strategy and tactics to be controlled and limited by avoidable deficiencies in equipment.

If ship command for specialists will serve to attain this end, it is claimed that the results will be ample compensation for some sacrifice of purely specialist attainments.

THE SPIRIT OF THE NAVY.

WRITTEN IN JANUARY.

WHEN the armistice came down upon us, I expect there were many like myself who felt that a blank vagueness had suddenly invaded their minds.

At first an indefinite feeling, it gradually developed into speculation as to the future of the Navy and more particularly of the individual.

Ever since our midshipmen days, when we had first begun to realise responsibility, there had ever been before us the one and essential goal of trying to make our own little bit of the Navy ready for immediate war with Germany. In one week the whole of the motive power driving us along and our philosophy of life vanished.

There are some professions which are merely a way of making a living, they have no inspiration; the members of them find their inspiration—their joy in life—in their private lives, in their pastimes, or do not find it at all.

The naval profession is not one of these. To really *live* in the Navy there must be inspiration, and to make it a living Navy there must be inspiration amongst its members.

Where is this inspiration to come from now? To assume that during the nineteenth century the Navy was lifeless and without inspiration would be, not only impertinent to the many fine men who officered it, but also pure nonsense. If we can discover that "something," which kept them up to the mark, we may be able to look with less blankness on the future.

It is true that during the century there were various "scares"—French scares—Russian scares, etc., but there must have been considerable periods during which there were no scares, and when the will for efficiency would have dropped if there had been nothing to keep it up.

Is it presumptuous to suppose that it was tradition which kept things going?

That something did keep things going is, I think, proved by the fact that when the spurt was required in 1906 (approximate year), the Navy was in a condition to make it.

As a comparison, a Navy can be imagined where, before making the spurt, it would be necessary to first build up the principles of discipline.

There may have been many causes which contributed to keeping things going, but for the sake of argument I will assume that the principal one was tradition—because I want to find out what tradition means.

Although many officers modelled their conduct on the traditions of the Navy, the primary motives of the traditions had in many cases been entirely lost sight of and in fact had ceased to exist. There was a mix up of cause and effect; meaningless things were done which diverted attention from important ones. My meaning is best explained by an example.

A cadet, on coming to sea, was told it was unseamanlike to go aloft by the lee rigging or in later ships by the lee tripod of the mast. As far as I can see, it is not the least unseamanlike in a steamship. The cadet probably did not bother his head to find out why it was supposed to be wrong, but just added it to the many other things which were done because they were traditional and seemed to be enforced for the same reason as some of the regulations at school, *i.e.*, just so as to have some regulations in order that boys might be made to obey them.

The above is an example of a tradition which has no justification for its retention. They are not all of this variety.

A commander might be heard telling a midshipman that he would never be a seaman if he allowed "Irish pendants" in his ship. The midshipman would think that the way to become an efficient officer was to learn the "do's" and the "don't's" of a large number of little points. I submit that this is the wrong view of the tradition. The "Irish pendants" are *signs* of slackness, not crimes in themselves and that the midshipman should have been told "If you allow rope's ends to hang about, it is a sign that you don't care, that your standard is not high enough."

Again, I have come across officers who explain to a man the reason for not doing something by saying "It's not Navy," meaning "It is not done in the Navy." The recipient of this admonition struggled to remember a number of things which he must not do; these varied from wearing his cap on the back of his head to taking off his knife when he went to the wheel to steer by the gyro compass! It was never explained to him that he had to put his cap on straight because slovenliness would not do; and it *could* not be explained to him why he took his knife off when he went to the gyro compass!

Thus, many things which were only the outward sign of principles or traditions have become principles and traditions in themselves.

This state of affairs is less satisfactory than one in which the traditions themselves are maintained, but I am far from condemning it altogether as it is probably better than letting everything slide.

The great tradition is, "Only the best will do."

It was formed in war against the enemy and the weather, and it was formed because anything but the best meant failure and perhaps disaster.

If there is before us a long period of peace, we must maintain this tradition, so that the Navy will be ready to put on the spurt when our supremacy is challenged. It is also only by being satisfied with nothing but the best, that the developments of science will be used to their full capacity, as they progress from year to year.

It may appear profitless work to drill and exercise with weapons which we know will be obsolete before the next war; but if we do not do so we shall fall behind in the development of material and also lose our sense of high standards.

At the same time, it would be wise to avoid keeping up customs which have lost their *raison d'être*, since they tend to make men think that everything is only a matter of meaningless form. Evening "quarters" is an example which will further illustrate my meaning. Presumably instituted to clear away the guns for the night, it has developed into a kind of evening divisions. As an evening divisions I daresay it is perfectly sound, but its object should be stated and understood.

If we can clear away the false and meaningless traditions it will be easier to keep before us the important and real ones. If we do not keep them always before us, the high standard of the Navy will decline during peace.

I hope that the above amateurish thoughts may keep other officers, beside myself, from feeling that the future is merely a prospect of aimless activity.

Our ideal should be "Only the best is good enough."

THE TRAINING OF NAVAL OFFICERS: AN IMPERIAL QUESTION.[1]

THE education of our naval officers is, beyond controversy, one of the most vital problems which can confront those primarily responsible for the inviolability of these islands and for the safety of our sea-borne commerce; it is, indeed, no exaggeration to say that the integrity of the British Empire depends mainly on the quality of the personnel in the first line of defence. The efficiency of that personnel is at least as potent a factor in the era of the 15-inch gun and the super-Dreadnought as in the days of the Victory and the 32-pounder. This truth is not merely indisputable, it is axiomatic and needs no enlargement. My Lords of the Admiralty are the chief trustees of the nation in safeguarding this efficiency. On their guarantee we stand to preserve or lose an Empire. The burden on them is enormous. But only one degree less grave is the responsibility attaching to those, whether societies or individuals, who by propaganda in print and on platform make it their mission to scrutinise and if need be to challenge the wisdom of the existing system of training naval officers. Anything calculated to sound unduly the note of alarm, or, on the other hand, to lull the national sense into a false security, would be an attack on Imperial well-being.

It is, then, with a deep sense of the responsibility involved that the following article has been contributed.

It might indeed be urged in some quarters that, having regard to the fact that the present scheme dates its inception only from 1902, the time is not yet ripe for putting its merit to the test. Apart, however, from the duty owed to the nation that it should from time to time be certified, or, if necessary, reassured that any existing system is not only better than its predecessors but the best system possible and the most clearly adapted to the complex conditions of modern warfare, other pressing considerations serve to show that no more opportune, or indeed more critical moment than the present could be chosen for bringing into public prominence a matter of vital import to the security of the Empire.

The terms of reference in the Report (bearing date 1912) of the "Custance Committee" appointed to inquire into the education and training of cadets, midshipmen and junior officers of His Majesty include, *inter alia*:—

[1] Reprinted from the *Fortnightly Review* of April, 1914.

"B. The education, including courses of instruction and system of examination at present given at Osborne and Dartmouth Colleges, with special reference to:—

"(*a*) Age of entry at Osborne.

"(*b*) Length of time spent at Osborne and Dartmouth.

"(*c*) Should Osborne be rebuilt, or a new site selected, in view of probable increase in numbers required?"

It will be noted that these terms of reference do not empower the committee to offer any expression of opinion as to the wisdom of the general policy which set in motion the Osborne scheme, but are limited to recommendations on the conditions of entry, and on the length and character of the studies pursued in the two colleges.

It will be observed also that the committee in their "Summary of Main Recommendations" have reserved their reply to B. (*c*) "Should Osborne be rebuilt, or a new site selected in view of probable increase in numbers required?"

"The matter" (they say) "is still under consideration," and a fourth or supplementary report on B. (*c*) is promised.

Now it is a matter of common knowledge that the present building, hurriedly constructed of friable material in 1902-3 in order to bring into being at the earliest possible moment the policy of the Selborne-Fisher scheme, must be reconstructed or abandoned at an early date. The cost of reconstruction has been estimated at £250,000.

In these circumstances, the writers of this article submit that before the country is committed to any heavy additional expenditure for this purpose, the time is ripe to examine into the conditions of the existing system and to ask whether after eleven years' experience of its working the results have been as satisfactory as its promoters prophesied, and its advocates have with more or less assurance held. It is admittedly a very costly scheme, based as it is on the principle that the country should furnish a large proportion of the expenses involved in the secondary and technical education of its future officers from the age of 13½ to 21—*i.e.*, a course lasting (on an average) over 7½ years.

The questions, then, which confront the inquirer are these:—

1. Has the scheme fulfilled its purpose in a way which no other less expensive system could have achieved?

2. Has the long period occupied over the course and involving a large extra expenditure of public money, proved in itself to be necessary and reproductive? If both these questions can be answered unhesitatingly in the affirmative, then *cadit quaestio*: the British taxpayer must foot the bill cheerfully and any others presented supplementarily as the outcome of the scheme; they must all be regarded as indispensable items in the premium to be paid for a complete national insurance.

Unfortunately, there are growing signs of hesitation in responsible quarters in answering these two questions satisfactorily. It is a matter of common knowledge that many influential naval authorities have passed a by no means favourable verdict on the results of the system of training, while *The Times*, which is not usually lacking in its sources of inspiration, in a leading article on November 24th, 1913, contained the following striking statement:—

"It is well known that the Admiralty have not been altogether satisfied of late with the qualities of some of the cadets admitted to Osborne."

Now it will be observed that these two criticisms bear respectively on (1) the present age and mode of entry; (2) the efficiency for sea-fighting purposes produced by the plan of training the selected candidates from the early age of 13 in special naval schools, as well as by the system pursued therein.

How far are these two criticisms justified by facts?

(1) First, as to the age and mode of entry. The creed which prevailed in the simple days of sailing-ships and which seems, as usual, to have survived in some quarters long after the conditions which produced it have passed away, viz., that "if you catch them at all, you must catch them young," is becoming recognised, by some naval thinkers at least, as a superstition which is not supported historically.[1] The art of the sea officer is of a complex nature and requires a variety of qualifications, the value of which a century of peace has somewhat tended to obliterate. What are the qualifications demanded? Clearly not mere capacity to assimilate technical training, important as such a capacity is. Moreover, it is obvious that the more immature the mind—in other words, the younger the candidate—the less possible is it to forecast whether he really possesses that technical ability. A much more important quality would be the possession of that individuality, adaptability and self-determination which, when found in an executive officer, win the confidence of superiors and the obedience of subordinates. By what means are such qualities discoverable in a boy of thirteen?

But more indispensable still for the higher ranks of the profession than either technical skill or executive ability is that combination of intellectual and moral force which is quick to seize on and to apply principles, to employ a balanced judgment on men and facts, to combine imagination and reflective powers with a mental alertness in providing against and in utilising unforeseen contingencies.

The question at once arises: Is the age of 12½ (or 13½, as is now fixed by the Admiralty) the best stage of boyhood at which to discover

[1] A chronological tabulation of the varying ages of entry since 1676 (which there is not space to publish here) shows this conclusively. See the May number of the NAVAL REVIEW, 1914, page 231. Page 148 of the reprint of Volume II.

whether these qualities are present in germ and capable of development and perfection in later adolescence and maturer manhood respectively? Physiology and psychology teach us the exact opposite. From the age of eight to twelve there is a period of relative stability. The senses are acute. There is immunity from exposure and temptation. The mind is keen and alert, the memory quick and lasting. But this period is succeeded (from 12 to 15) by one of seething instability. Everything now indicates profound changes in the organism. The health is apt to be capricious. Rapidly changing impulses and habits take possession. Desires and ambitions are quickly formed and as quickly disappear. The growth-force becomes acutely sensitive to influences on all sides. There is an increased susceptibility to epidemic disorders. Some boys at this age show imperfect or arrested development; some are the victims of premature growth; others, on the other hand, show little bodily and mental disturbance and are therefore to a superficial view the most promising. These last naturally attract the eye of the interviewer and are most generally chosen. Now, it is a physiological truth that this superior stability is to the last degree deceptive. Indeed, such stability is in direct conflict with the biological law that the higher the organism the slower, as a rule, is the process of development.

And here the practical experience of schoolmasters bears out the reasonings of psychology and physiology. Any expert in boyhood could bear witness that the period from 13 to 15 is the most difficult of all ages at which to measure justly and predict correctly the capabilities and character of the man that is to be. And yet the Osborne scheme has fixed upon this notoriously deceptive stage of life as that at which to select the personnel of a profession on the efficiency of which depend the integrity and existence of the Empire![1]

No lengthened stress need here be laid on certain inherent weaknesses in the procedure involved in the choice of candidates, though such weaknesses are painfully obvious to those who, like one of the writers of this article, have acted as members of the Interviewing Board.

Some candidates indeed seem undoubtedly (at the early age of choice, at least) of the right quality and are therefore unhesitatingly selected, while others are as undoubtedly below that standard and are therefore as unhesitatingly rejected. There remains, however, a preponderant "middle class," marked as on a dead level of mediocrity and far exceeding the number of the remaining vacancies at the disposal of the board. The result is the exclusion from the successful list of some and the inclusion of others, founded on bare memory of past interviews and on a comparison between the necessarily confidential reports of preparatory schoolmasters, the warmth and completeness of which

[1] No other great naval Power favours a very early age of entry. In America it is fixed at sixteen to twenty, France at fourteen to eighteen, and Germany at fifteen to eighteen.

depend largely on the characteristics of the men who make them.[1] Hence there is an intrinsic unfairness in the system which no skill nor conscientious care on the part of the Interviewing Board can eradicate.

Nor must the argument of "negative instances" be wholly disregarded. By this is meant that (*a*) the choice of the Navy as a profession by a certain number of boys at an age notoriously susceptible to chaotic impulses sometimes proves one of mistaken choice on both sides (of which fact the large number of leakages afterwards is an eloquent indication)[2]; (*b*) there are an indefinitely large number of boys whose solidity and shrewdness of character restrain them from rushing into a profession the attractions of which they feel themselves at that early age unable prudently to measure. And yet some of these may be exactly the type of boys who are really needed for the sea service, but whom my Lords, under the present system, stand to lose. Encumbered by these positive and negative difficulties, the Board of Interviewers are instructed to select for the service of the country (say) one-third of such candidates as may decide to present themselves.[3] Is it surprising if their judgment is sometimes falsified by the result? Is it surprising to hear that the Admiralty have not been satisfied with the quality of the candidates? Page 21 of the third and main Report of the Committee contains the following alarming passage:—

"(A well-known headmaster) who had served on an interview committee stated in his evidence that he was struck with the limited number of good candidates, and that he was disappointed at having to accept some weak boys. In this opinion he is supported by a number of other witnesses, who seemed to believe that the Navy has not been getting as large a supply of good candidates as it should.

"The presence of a tail of very weak ones among those selected is borne out by Captain the Honourable Horace Hood, of Osborne College, who was emphatic in his evidence that some of the boys were deficient in intelligence and unfit to become naval officers. The headmasters both of Osborne and of Dartmouth Colleges are agreed that the best and average cadets are much on a par with the best and average boys of the same age at public schools, but that the worst are too much below the average, although not so bad as the worst at the public

[1] An eloquent commentary on this statement is to found on page 22 of the "Custance Committee's" Report. "The Preparatory Schoolmaster finds that it is not to his interest to send boys into the Navy at the age of 12 $\frac{8}{12}$ to 13." In support of this statement the Committee's report comments on the fact that preparatory schoolmasters do not respond freely to the invitation to enlarge in their confidential reports on the merits of their candidates, but confine themselves to answering the questions set before them with "Yes" or "No."

[2] Such leakages have occurred in days gone by. See "Historical Sketch of the several means adopted for the Education of Naval Officers from 1729 to the present date," by Captain Robert Harris, R.N. 1863.

[3] The numbers of candidates and vacancies have varied considerably, but 70 and 200 may be regarded as fair estimates respectively.

schools. The evidence from the training cruisers and to a less degree from the sea-going fleet confirms the view that a certain proportion of the boys selected are much below the desirable standard."

This, then, is the criticism from within even after the weeding-out process has been carried out in the interval between the original selection and sea-service. It amounts to this: That while the country expects to get and to pay for the very best, the *crème de la crème*, among the youth of England to protect her Empire, some at least of her defenders "are deficient in intelligence and unfit to become naval officers, or at least are much below the desirable standard." Can any state of things be more disquieting?

The Report proceeds: "The only effective way is to increase the number of candidates from whom the selection is made." Yes, "the only effective way" if the present system is to continue, but it will be noted that the committee were precluded by their terms of reference from offering a more drastic and revolutionary alternative.

The question then at once suggests itself. Is not the early age of selection itself at fault? Is it not a truth borne out by practical experience and physiological deduction alike, that the judgment, even of supposed experts, in selecting the best candidates is far less likely to be at fault when the subject of choice has reached a later and more stable stage of adolescence?

(2) The nature of the training given at Osborne and Dartmouth next calls for consideration. Is it in complete accord with any true philosophy of education, that is—does it tend to the harmonious development of all those powers and faculties which have been noted as essential for the highest functions of sea service?

In offering their criticisms on the education given at the two colleges, the writers are anxious to dissociate themselves from any intention of reflecting on the ability of the teaching staff. They believe on the contrary that, both as regards scientific application of modern methods and success in imparting knowledge, the personnel at both naval colleges stands high among the educators of the day and would compare favourably with the best at the most efficient of our public schools. But these men in their turn are again "limited to their terms of reference." They have to conform to the conditions on which they were appointed. They are the servants of a pre-ordained system imposed upon them by Admiralty Regulations from which there is no educational escape.

What are the essential qualifications for a modern sea fighter? They have been already suggested. Individuality, penetration, versatility, alertness in seeing points and acting upon sudden emergencies—in guarding against or converting to advantage unforeseen contingencies. Doubtless the inborn genius of the man himself is the outstanding factor in the possession of these powers. Nelsons will be Nelsons under

whatever system trained. But in the average boy this power and alertness of mind, in the opinion of educational thinkers, are best gained during the educational stage of 13-17 by a balanced training in linguistic and literary studies on the one hand and scientific studies on the other. The narrow specialist—whether linguistic or scientific—will become an unequally unfit exponent of war.

Now, what is the character of instruction as set forth in the syllabus of the two naval colleges? The hours of work amount to $38\frac{3}{4}$ per week at Osborne and $43\frac{3}{4}$ at Dartmouth—hours which, considering the nature of the main subjects taught and the strenuous conditions imposed, are seriously in excess of those which fall to the lot of boys at the same age in the preparatory and public schools respectively. Of these hours nearly one-fourth is spent in practical work in the shops, one-fourth in mathematics, one-eighth in science, while one-ninth is devoted to modern languages, one-eighth to English and history—that is to say, the linguistic and literary work amounts to less than one-fourth of the whole.

In this connection the report of the Board of Education is perhaps less eloquent in what it says than in what it leaves unsaid. It goes, however, so far as to note that:—

"The object (of these literary studies) is to give that general acquaintance with the ideas and thoughts of mankind which is necessary to enable naval officers to take their place among the educated and cultured members of other professions . . . . The time allotted is the very minimum which can be considered in any way sufficient." (Pages 58-59 Custance Committee Report.)

That it is quite insufficient as regards the time allowed, whatever its quality, must, however, be apparent to any educationist. With regard to modern languages the following criticism is advanced:—

"Neither in facility of diction nor in literary comprehension, nor again in correctness of elementary literary work, is a standard attained such as might legitimately be expected in view of the ability of the teaching . . . . The cadets do not get sufficient opportunity to acquire the habit of independent effort and thought, and the result is apparent as soon as they have to deal with elementary tests where the guidance and stimulus of the instructors are momentarily withdrawn." (Page 64.)

And in their general conclusions the board report: "*The danger so far as there is one, is not that of overwork but of too much teaching and too little independent effort on the part of the cadets*" (page 72). The italics are ours.

Perhaps the last sentence is the best commentary not merely on the education, but on the character of the whole life led at Osborne and Dartmouth. This criticism of the Board of Education, though limited, like that of the Custance Committee, to the "terms of reference" (in this case to the classroom), is true of the whole environment.

The whole scheme of the young boys' waking hours is mapped out for them. There is little opportunity of individual initiative. In this important respect the character of the two colleges differs seriously in system and effect from that in vogue at the public schools when handling boys of the same age. The criticism indeed has sometimes and justly been made that a certain narrowness of type is fostered at these institutions also. But there, at any rate, within the confines of the small republics, the individual is free, and (specially) has abundant opportunity for initiative. At Osborne everything is cut and dried—the whole life is prescribed. There is, moreover, a pipe-clay instead of an elastic discipline imposed, and this at a malleable age when spontaneity ought to be encouraged to the highest possible extent. Individuality is crushed by system, not cultivated nor encouraged. And yet it is admitted on all hands that of all professions the Navy requires men of the greatest spontaneity, versatility, independence and alertness of mind and action.

And here it is to be noted that the Naval Colleges have fallen a prey to a method of dual government which, notoriously, is nearly always attended with ill success. The teacher is a mere professor; his influence is denied, nay, even resented, beyond the class-room. The naval officer takes possession of the body and soul of the boy outside of it. The cadet is in fact split into two parts. In the circumstances it says much for the tact, discretion, and mutual forbearance of the teaching staff on the one hand and of the naval staff on the other, that no more friction has arisen than is inevitable in the circumstances.

Again it is an educational solecism that 400 boys of exactly the same age should be educated together *en masse* at and from thirteen onwards. The effect on character must be immense and levelling. No wonder that there are complaints of "a monotony of type." There is no preparatory school which can point to half the number of boys as are massed together at Osborne, and even in big schools of that type ages vary from eight to fourteen. In the public schools again ages range from fourteen to nineteen, and there is a diversity of studies and interests in and out of school hours. Hence a corresponding variety of mind working upon mind. But in Osborne 400 boys of exactly the same age associate, doing the same tasks, and thinking the same thoughts. No wonder there is monotony.

Stress may be laid also in passing on the medical aspect of the matter. The age of thirteen is one peculiarly liable to epidemic disease. At the preparatory and public schools, ages vary so much that a large proportion of boys have either previously suffered, or are at an age comparatively immune, from such disorders. Is it surprising that among boys of thirteen, issuing from 400 different homes, there occurs a multiplicity of epidemics (often breaking out simultaneously) for which Osborne has become proverbial? There is no need to assign this phenomenon

to a supposed unhealthy situation. No real proof can be adduced as to this. The conditions commented on above form a sufficient explanation.

Generally—it is submitted that it is an educational mistake of the first order to educate 400 boys from so early an age on one uniform plan. Nature calls for variety; the sea-going profession calls for it with a yet louder voice. This variety would be obtained by boys being trained in schools of a variety of type until sixteen and a half or seventeen. At present nothing prevents that deadly monotony of type which is fatal to the very profession that beyond all others demands self-determination, initiative, and freedom from conventional bias and from a Procrustean uniformity of ideas. No wonder that criticisms are made that some of the ex-cadets from Osborne and Dartmouth show little faculty for command, and a lack of initiative.

Even in the cruiser they serve as half-timers, and, "like Jonah in the belly of the whale, they perform long voyages, but see little of the landscape."

To sum up—the education pursued under the present scheme seems to reveal two serious, nay, vital, educational defects. It is based on a mistaken *motif*. Because the modern warship is a box of engines, therefore (it has been argued), a large part of the training of all boys should be taken up with imparting a minute knowledge of the mechanism and adjustment of her machinery, and more particularly with the practical handling of her engines with a view to their preservation and repair. In refutation of this extraordinary fallacy the following quotation from Professor Huxley, who certainly could not be cited as a foe to scientific knowledge, is sufficiently eloquent. In an address on medical education delivered at University College, London, in 1870, condemning unnecessary subjects, he asks in tones of raillery:—

"Why not make him (the medical student) belong to the Iron and Steel Institute, and learn something about cutlery, because he uses knives?"

Why the scheme was launched and "rushed" in the first instance is a matter of common knowledge. It was dominated by a few leading ideas, one of which was the desire to supersede the old type of engineer, and, with a view to replacing him, to put every naval cadet through one homogeneous course of technical training, which course should begin half-way through the primary, *i.e.*, the preparatory school age. This was the fetish of technique before which all had to bow down and worship. The fact that an (undoubtedly able) professor of engineering from Cambridge University was, soon after the inception of the scheme, appointed the Director of Naval Education is a sufficiently eloquent proof of the truth of this contention. But the narrowness of the superstition is evident even in its own precincts. The fact that eight hours a week are spent in the workshops of Osborne would suggest that engine-

driving rather than engineering has been the aim. And yet how infinitesimal a part even a scientific knowledge of engineering would play in the art of modern war, no naval officer need be reminded. What an intolerable amount of sack to a pennyworth of bread!

But when the searchlight of criticism is diverted from the educational programme pursued in the two naval colleges and concentrated on that given in the training cruiser, similar objections *mutatis mutandis* present themselves. The policy of attempting to combine the functions of the school and of the ship has broken down. The Custance Report declares that:—

"the presence of a naval instructor on board a sea-going ship, in view of the fact that cadets have already received a sufficient education on school subjects at the Colleges,"

is not justified by results.

"The midshipmen were constantly removed from ship to ship to receive such instruction. The result (say the committee) was serious.

"In all departments there seems to have been a disinclination to place midshipmen in positions of responsibility, and a disposition to underrate their capabilities." (Page 25.)

"That a midshipman should not be trusted to run engines of a motor-boat" attached to a sea-going ship after all the instruction in engine work received at Osborne and Dartmouth is (as the Committee say) "difficult to understand."

After the first examination held in May, 1911, the examiners are satisfied that the knowledge of the midshipmen under the new scheme as regards seamanship, gunnery, and torpedo-work is on the whole, satisfactory, and then follows the remarkable admission:—

"Generally speaking, they are ignorant of the practical navigation of a ship, and it is impossible not to form the conclusion that there are very few who I consider could be trusted to command a torpedo-boat, and pilot her safely into the sort of harbours frequented by such craft."

In fact, distrust of the power of initiative and of the faculty of command among the midshipmen trained under the new scheme seems to run through the whole report. Whence this distrust? Surely it cannot be attributable to any inferiority in the intrinsic qualities of the cadets themselves. This would stultify altogether the method of original choice, which, however open to the criticism expressed in an earlier part of this article, would not have sufficed to bring about the generally observed weakness which the committee's report indicates. Moreover, in the interval between the entry into Osborne and sea-service, there has been a definite, if insufficient, elimination of inferior material. There can be no escape then from the conclusion that the general weakness is due to something inherent in the system of previous training itself.

The fact is that the truth which has long been an axiom of scientific pedagogy, is also gradually coming home by dint of practical experience

to the minds of naval authorities—that the attempt to combine a scholastic and professional training at one and the same time is inherently impracticable, and the truth becomes increasingly evident in proportion as the professional knowledge required and the science of imparting it become more and more complex.

Ever since 1702 the various attempts made to reconcile the two have ended in more or less conspicuous failure. The Goschen Scheme of 1897-1902, which recognised for the first time in recent years the incompatibility of the two,[1] and invited its candidates to pursue a fairly well balanced secondary education up to the age of fifteen and a half, was a step in the right direction, but it did not go far enough. The Selborne-Fisher system was a reversion to the old educational fallacy, and was particularly vitiated by the excessive concentration on a sectional and subsidiary item in technique. Comparatively few naval officers will ever be called upon to do duty in the engine room—probably none except those who specialise in engineering. For the rest it is not too much to say that three-quarters of the time spent in the workshop is cut to waste.

Technical training, of course, there must be, which should fit an officer to deal with the *matériel* in all its many branches, in order to be a successful seaman and navigator, but it should be confined to what is essential to the attainment of a general high standard. Efficiency can only be attained by practical experience. Meanwhile, in the period of professional training, everything superfluous should be eliminated; training in executive duties should take its place and be combined with responsibility. No amount of intimate knowledge of, or manual dexterity in handling, a box of engines can compensate for a mediocre standard of fighting efficiency; the one can never by itself yield success and victory, the other must always reap failure in peace and disaster in war.

Some few leaders will, of course, always come to the front under whatever system trained, but their leadership will be helpless without widely-trained and efficient subordinates. It is then on the quality of the education, *scientific* in the highest and broadest sense of that word, imbibed by our young officers, that the supremacy of our naval power, and therefore the integrity of the Empire, in the last result depend. "Conceptions" (says William James) "acquired before the age of thirty are the only ones we ever gain." Is there solid foundation for thinking that the existing scheme is generating those conceptions? Is there any proof that the age selected for the choice of candidates, and the attempt to combine a simultaneous secondary and technical education, have resulted or are likely to result in the production of the most efficient and the most scientific personnel?

There is a great and growing agreement that, both from the nature of the case and from observed results, the evidence is pointing to an

[1] See Report of the Committee on the Education of Naval Executive Officers, 1886, *passim*.

exactly opposite conclusion. And if this apprehension be well founded, there exists ample reason for national disquietude.

But, it may be urged, destructive criticism of an existing system which affects the safety of the Empire can serve no useful purpose—nay, can only awaken public anxiety and therefore work grave harm—unless fortified by a scheme of solid constructive reform. The writers are alive to the force of such an objection, and are prepared to meet it. Holding that organic change is needed, they venture to outline the principles on which reform should be based. Space alone forbids them to enlarge upon details which they have at hand. These must be reserved for a future opportunity.

1. The system of choosing the raw material for future naval officers at an age of seething instability when judgment, however expert, is most liable to error, should be replaced by a plan of selection at a later period when body, mind, and character have acquired some degree of poise and stability, and when, therefore, the faculty of choice is easier—that is, at sixteen and a half instead of thirteen and a half. The personal interview would still be valuable and would be retained in addition to the test by examination.

2. Educationally, the policy of the Admiralty should be based on the principle of securing boys already instructed beforehand up to such a standard and on such broad and liberal lines of general education as would enable them to assimilate quickly and efficiently the special training of a naval officer. This could be achieved three times as quickly and three times as efficiently at the age of sixteen and a half as at thirteen and a half. The visitor to foreign lands gains from travel stores of fresh knowledge only in proportion as he carries with him powers of observation, imagination, and mental perspective; so also specialistic studies are absorbed only in proportion as the soil of the mind has already been ploughed and prepared to receive them. The science of pedagogy and the results of practical experience alike attest this truth.

3. It follows then that the State should not provide the general education of its future naval officers. This should be supplied by the schools of the country. The training in those schools should be wide and liberal within the limits prescribed by the Admiralty. A due balance should be kept between linguistic and scientific subjects, but in the method of studying both kinds of subjects, the aim of the future profession should be kept steadily in sight.

4. In such institutions, based on manifold plans and on different ideals, the influence imbibed outside school hours would be infinitely various. When, therefore, the successful candidates came together at the naval college, there would ensue a free play of mind on mind, and a wide variety of thought: hence would be cultivated an independence of judgment, a freshness of view, and a versatility in action—all of which are the indispensable qualifications of a naval officer. Such a man would no

longer be the creature of a previous environment; there would ensue no monotony of type.

5. Again, the "dual system" of attempting to combine a general with a technical training would be swept away. Such an attempt has been made from time to time in the sister service, but has always failed, as it can be proved historically to have failed in the Navy. In this connection it is desirable to expose the common fallacy which confuses an early entry into a naval school with the age at which the boy goes to sea. Neither the Osborne system nor any system which replaces it can, under modern conditions, secure early sea-service.

6. Such a policy as has been sketched would save to the State the large financial outlay now required for early training, while wastage would be reduced to a *minimum.*[1]

7. The Admiralty would define their exact educational requirements, which would be tested by examination between sixteen and seventeen. A certain standard of general attainment would be imposed, but the greater diversity of subjects studied by the different candidates the better for the service. Such studies as will best develop the powers of imagination, observation, and reflection should be emphasised. Oral and literary proficiency in two foreign languages, history, English, and particularly précis and essay writing should be regarded as a *sine quâ non.* Mathematics of a high order should be optional: comparatively few require them in service at sea. A knowledge of plane and spherical trigonometry and algebra as far as quadratic equations together with such science as is taught in schools is all that is demanded, though an elementary training in magnetism and electricity would be expedient.

8. Generally let my Lords be clear as to the qualification they want to produce in a *fighting seaman,* and then determine the course of education best suited to produce them.

These qualifications surely are:—

(1) Knowledge of the seaman's art as expressed in seamanship, navigation, pilotage, administration and the control of the personnel.

(2) Knowledge of the use of weapons and their employment in war.

(3) Knowledge of the art of war.

With a view to all these, the first thing essential is a well-prepared mind. It is submitted that the schools of the country, which offer all the advantages of contact with youths of different pursuits and aims in life, would provide the young naval officer with such essentials far better than the confined and specialised atmosphere of preparatory naval colleges. The latter system was tried from 1729 to 1837, and again from 1857 to 1897, but failed at both periods.

[1] It is calculated from the Naval Estimates for 1913-14 that (allowing for leakages) the State pays 63 per cent., and the parent only 37 per cent., of the total cost of every cadet at present in training at Osborne.

9. If such a scheme as has been outlined were to replace the existing system, the public schols must be called upon to co-operate with the Admiralty in no grudging spirit. They must recognise that they are being invited to take part in a work on which the stability of the Empire depends.

To sum up—our proposal is this—that candidates for the Navy (like candidates for the Army) should pursue their general education at the public schools up to the ages of 16 to 17; that they should be allowed two out of three possible trials in the course of that year; that their selection should be determined by examination and by personal interview combined with the usual medical safeguards; that the selected candidates should spend 18 months at Dartmouth before going to sea, and that their work at the colleges should be exclusively devoted to the groundwork required for a sea officer—to that and nothing more. The State should defray from entry all costs for training and their pay when afloat should be sufficient for maintenance.

Finally, it is emphasised once more that early specialistic training and the monotony of type resulting from the aggregation from an early age of a mass of boys all taught the same subjects of study, and all disciplined on the same system, are fatal to that spontaneity, independence and self-determination, which are the essential qualities of the watch-dogs of the Empire.

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PROPAGANDA ON BOARD SHIP IN ACTION.

It is said that the Germans ascribe their defeat and downfall in the war largely to the effects of the propaganda—mainly British—on their population and armies, and that in the eyes of their High Command Lord Northcliffe was a general no less to be feared and respected than Foch himself.

Be that as it may, it is beyond question that in the later stages of the war propaganda played an important and increasing part, both in stimulating the efforts of our own countrymen and in depressing the spirits of the enemy.

In the early days of the war there was an almost entire neglect of the subject, unless indeed concealment of reverses and the most rigid and wooden form of censorship can be considered as a form of negative propaganda. The very word was almost suspect to English ears and is so still to some extent, implying somehow a falling away from that standard of "the truth, the whole truth, and nothing but the truth," which is sacred to us from its familiar police court associations.

Propaganda to be successful cannot, it must be admitted, come completely up to this high standard. Rightly and ably used, it should indeed tell the truth, and in fact it may be defined as a method of presenting the truth in the form most suitable and desirable for the object in view, and for the effect on its recipients. But the whole truth and nothing but the truth, if indeed it can ever be communicated, lies outside the scope of propaganda and might indeed defeat its very object.

To say this, however, is not to stigmatise the use of such methods as foul and unclean. Even the partial presentation of truth is better than the dissemination of lies, and it was precisely for this reason that British propaganda had so great an effect as compared with that of the enemy.

These general considerations may prepare the way for the immediate purpose of the present article, which is to emphasise the need for, and advocate the organisation of a system of propaganda in naval actions. In war-time, propaganda, whether we are conscious of it or not, is affecting us constantly, directly and indirectly. The wording of communiques, public announcements and newspaper articles is, or should be, designed to strengthen our determination to win, to point out the direction in which victory lies and the factors necessary for its attainment, and to hearten and sustain us in adversity.

These influences can, however, only operate on our minds so as to induce a general spirit of determination and aggression, and they cannot be relied upon to act in such periods of tension as occur in a naval action. The latter has certain peculiar features which are not common or only

partly common to other forms of battle. In the first place, only a very small proportion of the complement of a capital ship even see their own fleet, much less that of the enemy. This proportion varies slightly, but 5 per cent. is a fair estimate, and this handful alone experiences the exhilarating effect of the discharges of the broadsides of the fleet and the impressive progress of the ships contained in it.

Secondly, a very large number of the men may have no active function whatever to perform during the whole of the action. The mere act of performing a routine or simple task eases the strain on nerves tautly strung, and an instance of this was given in an article in a medical paper. The writer, a naval surgeon, in order to steady the men in his first aid station, set them to swabbing the decks with antiseptics and lint, a task quite valueless for the ostensible purpose, but one which gave remarkable and excellent results.

Thirdly, in the case of a sailor the loss of his ship probably means also that of his own life, and this alone is sufficient to make a strong differentiation from the soldiers' sensations. In the late war and before that, it was a commonplace that the average soldier's instinctive feeling was that whoever was going to be hit, somehow it was not he himself. This instinct is reversed, perhaps naturally, after a man has been wounded; for then he imagines that every shot is directed individually at him.

For these reasons, then, it will be seen that a naval action is peculiar in that many of the individuals in a ship's complement while under the stress of considerable nervous tension are not sustained by the stimulus of action.

In such circumstances, it is contended that the value of suitable propaganda will be great, and if carefully organised should assist appreciably to raise the moral of those most likely to be affected, and to maintain their capacity to deal with any emergencies that may possibly arise.

The propaganda should as a rule take the form of news as to what is happening, but transmitted in the form best calculated to raise the spirits and to excite interest and possibly discussion. At the beginning of the action news as to the sighting of the enemy, the size of his fleet, our own deployment and similar subjects are suitable. After fire has been opened remarks as to the ship fired at and the effects of our own and other ships' fire can be passed through. Unfortunate events which cannot be concealed should be published, but with as favourable a construction as possible. Quite a mild consternation was caused among a large repair and fire party by a messenger returning with the totally erroneous information that the "Nonsuch" had been torpedoed and was on her beam ends. Subsequent inquiry elicited the fact that though she had been struck she was maintaining her position in the line and gallantly maintaining a very effective fire on the enemy. "Beam ends" proved to be a list of less than 10°. This occurrence should either not have been published or else, if necessary, transmitted in its true form with a few comments to emphasise its good points.

It is, of course, essential that the news shall be collected by someone who is in a position to see what is going on, and this is a difficult part

of the problem since the accommodation available is usually circumscribed, but in most capital ships there are one or more individuals whose duty it is to take notes and times of various occurrences, and he or they can be instructed to pass occasional news messages to a position below. Their function, therefore, is that of the newspaper correspondent who supplies news to the editor, the latter's duties being undertaken by an officer below, whose employment is such that while ready for any emergencies that may arise he is not continuously occupied. In many ships the commander or senior lieutenant below can well undertake these additional duties, as long as it is borne in mind that news of this sort is only required occasionally and that its collection and distribution are strictly and entirely subordinate to the business of fighting and working the ship.

As to the method of circulating the information, no hard and fast rules can be laid down. It is advisable to avoid the already overloaded telephone system as far as possible, but much depends on the arrangements existing in a ship, and in some cases lines which are not required for fire control or other vital purposes can be employed. In such cases the passing of messages of the nature described forms a convenient method of keeping touch with outlying parties. If no telephones are available written chits can be distributed to convenient centres by fire patrols, and this system also has the advantage of enabling touch to be kept with parties liable to isolation. Generally speaking, the distribution of information can be improvised without great difficulty by the aid of a certain amount of organisation and drill and will be found to have advantages, other than that of the mere value of the propaganda, in maintaining good communication throughout the ship.

There remains the question as to whom the information should be supplied, and from the nature of the case it is clear it should go mainly to those whose duties are such that they will not be interrupted by its receipt. Guns' crews in action have quite enough to occupy their minds and their energies, but men in engine-rooms and stokeholds, fire and repair parties, disengaged guns' crews and tubes' crews, and first aid parties will benefit greatly in spirits and moral if their minds are given material to work on.

The proposals and considerations outlined above are doubtless not of vital importance, but it is thought desirable to record them, if only for the purpose of discussion, while the events and experiences of the war are still fresh in our minds and before a generation arises to which the atmosphere of action can be only a matter of hearsay or imagination.

ON THE COURSE AT CAMBRIDGE UNIVERSITY FOR NAVAL OFFICERS.

THIS course has now been in existence for about a month and it has been thought that some reflections and remarks on it might be of interest to those who study the question of naval education. The officers under instruction consist of about 400 lieutenants, acting lieutenants and sub-lieutenants, to whom the advantage of a certain amount of University training is being given, before they can with profit take the specialist courses at Portsmouth which were in vogue for sub-lieutenants in 1914. This course is to last for six months, viz., February till July, 1919, with an interval of a fortnight at Easter, thus suiting the University Lent and Easter terms. The examinations are to be at the end of June.

The officers are accommodated in different colleges, lieutenants for the most part having a set of rooms to themselves, while the more junior officers have to share one between two. For the benefit of those who know nothing of University life, it may be said that an undergraduate's rooms consist of a sitting room, a bedroom, and a small pantry, and that as a rule the undergraduates take their meals in their own rooms with the exception of their evening dinner or "Hall," so called because it is taken in the College Hall. The naval officers on the other hand, have the use of the Hall for all their meals, except tea, which they have in their own rooms. This arrangement is preferable to having the meal at a fixed hour in Hall, which may interfere with games or be at an inconvenient time for a lecture; a daily ration of bread, milk, jam, tea and margarine is provided. It is, however, a mixed experience for officers who have been accustomed to go down into their mess and order tea at any convenient moment, to find that they have to boil their own kettle over their own fire and generally make their own preparations before they can be refreshed with the cup that cheers but does not inebriate.

A pleasing part of the life here is formed by the facilities for games; at the beginning there was some hesitation in "getting away from the mark," but since the first week all has gone well. In all sports, the officers are expected to join their college teams rather than to form teams of their own. In other words, the college comes first, the Service for six months is to take second place. Many officers row regularly every afternoon (for the instruction hours this term are the forenoon and occasionally the dog watches), finding no small difficulty at first in the manipulation of an "eight"; there are rugby, association and hockey teams at most colleges, while under University organisation come excellent fives and racquet courts, athletics and cross-country running, as well as a boxing and fencing club. On the other hand, if one may venture a

criticism, a naval officer is accustomed to be a Jack of all trades and is perfectly happy in taking a different form of exercise every afternoon in the week; consequently some surprise has been expressed at the system in which men seem to concentrate on one sport to the exclusion of all others. If a man elects for rowing, he is to be found at the boat-house every afternoon, and it is only the humble lights in the athletic world, the spare forward for the second fifteen, or the man to whom the hockey secretary comes as a last resort, who are able to indulge in the old habits of taking a turn at anything that turns up.

However, it is sufficient to say that the games are very much appreciated and the generous way in which the different clubs have welcomed the officers has caused much pleasure and good feeling.

With reference to the petty details of organisation and discipline it is not necessary to say much. The establishment is under the control of a captain, who is assisted by a staff of five commanders, certain instructor commanders and engineer officers.

For disciplinary purposes two or three colleges are grouped together under a commander, referred to as the unit commander; marine servants are provided in the proportion of one to six officers, and charwomen, locally known as bedmakers, clean out the rooms and lay the fires; difficulty was experienced at first with the supply of coal.

The officers are not subject to the University system of fines for petty offences, but in general have to obey the rules laid down for the undergraduates; to be seen smoking in the courts or walking on the grass is to risk a court-martial.

A more important question is that of instruction and education. The only civilian member of the staff is the Director of Studies, a post which he finds no sinecure. In the first place the lieutenants here are the 60 officers who passed the examination set by the Civil Service Commission for the public schools entry in June, 1914, thereby rounding off a public school career at the age of 18, having reached a comparatively high standard in mathematics. This examination was the same as that taken by the candidates for Woolwich and Sandhurst and included an extra paper in elementary engineering.

Among the sub-lieutenants, on the other hand, are the officers who left Dartmouth at the outbreak of war, aged under 16, after only one term's instruction there. Among the officers, too, are some who have turned over from the Royal Naval Reserve, whose knowledge of the elements of trigonometry is distinctly vague and even of navigation rather perfunctory. When it is remembered that some officers have had excellent instruction from the naval instructors and other officers in the Grand Fleet, while others have learnt little save active service experience in destroyers and gunboats, it will be seen that the authorities are a little bewildered where to start, as the Admiralty intend that all officers should take the same examination and be classed in the same time-honoured manner, when the course ends in July.

This is a source of continual criticism; in the same class are to be found officers, who insist that the instructor is talking far above their

heads, with those who feel that they are wasting the opportunities of a great University by listening to instruction of a type that they left behind in their preparatory schools. It certainly seems regrettable; with the Service growing more technical every day, that it was not possible to select and group the officers in a manner more in accordance with their educational attainments. It is acknowledged that what is being taught here is of great advantage to a great number, if not the majority, of the officers, but it is suggested that the difficulty might have been avoided in the following way. Every officer on joining should have been shown a syllabus of the course and the details of the subjects that were to be studied; if, then, anyone claimed that six months spent on such work was for him a waste of time, and could justify his claim, say, by a *viva-voce* examination after a fortnight's study, then he might have been given a choice either of taking up an appointment afloat again, or of taking a long course in a specialist subject, or of staying in Cambridge and continuing his education either by attending lectures of a more advanced character in mathematics and physics, or by the study of a particular subject, say, history or chemistry, if he could show that he had talent, which if educated at public expense now, could be put to public profit in later years. It is admitted that the difficulty of "classing" and settling differences of seniority would have to be overcome, but in brief such a scheme might prevent officers, who are capable of rising at once to the higher theoretical work connected with modern gunnery and torpedo, from wasting their time with the definition of E.M.F. and the Pythagoras theorem.

The instruction in mathematics (three hours a week) is given by the officers of the instructor branch; it is expected that the standard of the passing out examination will be that taken by the cadets at the conclusion of the fifth term at Dartmouth, that is to say, logarithms, the solution of plane triangles, the binomial theorem, but not the calculus. The instruction in physics (electricity and optics) is also for three hours a week and the instructors, University men, have begun at the very beginning of electro-statics and light, and are endeavouring to teach the definitions of charge and potential and the wave theory of light.

To officers who have always regarded electro-statics as an irksome stepping-stone to the interesting work to be found in applied electricity, this is a matter for criticism. Similarly, there is no need to learn twice in one's life that light travels in straight lines.

However, doubtless such revision quickens the mental powers and revitalises the brains of those who listen to it. Lectures of still more elementary nature are given in applied mechanics and these are made more interesting by laboratory work once a week. The engineer commander gives one lecture a week to each class on marine engineering.

The patience of our instructors has been much tried at different times, but undoubtedly when they know their classes better, all will be well. One gentleman, who had evidently never opened a torpedo drill book, explained to a class in some detail the method of representing a ten-cell battery on a blackboard. Another Professor modestly mentioned

that he had invented an instrument during the war for measuring the horse-power of an aeroplane propeller, but when his audience recognised in his description of this instrument the familiar torsionmeter, found in every turbine ship in the Service, their respect for his inventive powers received a distinct blow.

The above describes the details of the specified course. The lectures (of the specified course only) occupy 11 hours a week and the officers are expected to occupy at least another 11 hours in paper work to be done in their own time; note-books have to be kept for the physics lectures and sums to be done in mathematics. During the term test papers have also been set in navigation.

The examinations for classing are only to be on the subjects of the specified course detailed above.

Arrangements have also been made for courses of lectures to be given by eminent Cambridge teachers on subjects, quite apart from technical naval subjects which would be of general interest to naval officers. A certain amount of choice is allowed; that is to say, the only restriction which prevented all the officers from choosing their own subject is the necessity of limiting the size of the classes. The following is the list of subjects and lectures :—

Section I.

1. English Literature, P. L. Babington, Esq., M.A., LL.B.
2. Naval History, J. Holland Rose, Esq., Litt.D.
3. The Development of the Social and Political Institutions of the British Empire, C. R. Fay, Esq., M.A.
4. Modern European History, Rev. E. J. Passant, M.A.
5. Languages, viz. :—French, Italian, Spanish or Japanese.

Every officer has to take one of the above courses of lectures, which occupy two hours a week.

Section II.

1. History of Astronomy, Arthur Berry, Esq., M.A., F.R.A.S.
2. Physical Geography, P. Lake, Esq., M.A.
3. History of Geographical Discovery, H. Yule Oldham, Esq., M.A.
4. The Sea and its Inhabitants, J. S. Gardiner, Esq., M.A., F.R.S.
5. Savages, Past and Present, A. C. Haddon, Esq., Sc.D., F.R.S.
6. The Technical Application of Chemistry, Sir W. J. Pope, K.B.E., M.A., F.R.S., and C. T. Heycock, Esq., M.A., F.R.S.

Every officer has to take one of the subjects from Section II., which occupy three hours a week. In connection with these lectures three essays have to be done during the term on subjects set by the lecturers, in the officers' own time.

These lectures are very much appreciated by everybody; it is unnecessary to say that each lecturer knows his subject to his finger ends;

the range of subjects satisfies everybody, and there are facilities for extra study in the college and University libraries and museums. Visits to the observatory are encouraged for those studying astronomy, and many of the lectures are illustrated by lantern slides and maps. It would be invidious to say much, but it may be said that perhaps Doctor Rose's lectures on " Naval History " are the most popular, being invaluable to those officers who contemplate taking up staff work and training for the higher command.

No one, has anything but praise for the thoughtfulness of the authorities in combining mental recreation and first class instruction in these series of lectures. There is to be no examination at the conclusion, but the two or three essays to be done during the term have to reach a certain standard. The only criticism put forward is that it is regretted that some of the lecturers whose knowledge is profound are unable always to impart that knowledge in suitable language. They are handicapped by not knowing the quality of their audience, and by finding them so mixed in the elementary knowledge of literature and history.

It has been remarked, however, that if time was not so occupied with elementary sums and formulæ, it could be better devoted to these outside subjects. But Cambridge is socially a gay and lively place, and officers, who complain of lack of time, are usually to be found at any dance, party or social function, so that their protestations do not carry much weight.

There is little doubt that this course has emphasised the necessity of giving the naval officer the all-round education of a well-read man. It is not necessary for him to know Greek perhaps, but it must be contended that a knowledge of Shakespeare and English literature, a knowledge of the world and its physical characteristics, a knowledge of history and the development of civilisation are necessary for every thinking man in order that he may take an intelligent interest in the government of his country and in the world around him. Why the officers who are to have control of the British Fleet of the future should be denied this, and be given a cramped and narrow-minded education at naval establishments, is a problem for which the advocates of the public school entry seek a solution. That the value of a public school education is being brought prominently forward in Cambridge there is no doubt among those who have to deal with these 400 officers, who have temporarily become its students.

In short, it must be emphasised that the naval officer of the future must be given the chances educationally of the Civil Servant or the man of business. The successful Navy must be ruled by men whose minds have been broadened by good reading and education; the system whereby everything is subordinated to technical knowledge and specialist education has proved its failure at this time and in this place, even if it never did so before.

However, in conclusion, one must gladly admit that the pleasures and advantages of life at Cambridge far outweigh any small defects in the scheme that have been picked out for criticism. The life ashore, the total absence of responsibility, the opportunities for meeting distin-

guished men, and for exchanging views with men of wide experience on the one hand, and with undergraduates, fresh from school on the other, are only a few of the advantages which are gained here. There are opportunities for everyone, libraries, museums and laboratories are at our disposal, dances and concerts continually take place in the town, and debating societies have their meetings in the colleges. The reins of discipline are held so lightly that they are hardly noticeable, and life is so pleasant with a continuous round of work and play that there will be many sighs of regret when the time comes to go afloat again.

THE "K" SUBMARINES.

SERVICE in " K " boats is usually avoided for the rather vague reason that " K " boats are no good; an entirely mistaken idea, as the writer attempts to show in this essay.

The " K " boats were designed when the need for submarines capable of working with the battle fleet was first realised, and were laid down early in 1916. The appreciations of the tactics at Jutland showed how imperative it was to have " fleet submarines."

The first and principal essential required for this work is sufficient speed to be able to keep the speed of the fleet in most weathers; and to get this quick-diving qualities had to be sacrificed in the same way that armour and guns were sacrificed in battle cruisers.

Remembering that speed is all important, it is seen that the " K " boat design is highly successful, a speed of 24 knots being obtained, which is sufficient to allow for 20 knots being kept up in moderate weather.

Critics who maintain that in bad weather the speed must be reduced to a crawl have scarcely studied the question from a large enough standpoint.

In a case of urgency a " K " boat can keep up a speed of 19 to 20 knots in weather that would force destroyers to reduce to 15 knots or break up; admittedly, damage to the bridge and superstructure must be expected, and the stokers in the boiler-room would suffer severe discomfort from water pouring down the air intakes and funnels, sometimes extinguishing the fires (which can very quickly be relighted), but the main point is that the ½-inch hull will not suffer from any amount of overdriving in bad weather like the thin plating of a destroyer; so unless the commander-in-chief was willing to leave his destroyers he would never have to outpace his " K " boats.

(NOTE.—It is quite usual for stokers to go on watch in the boiler-room wearing oilskins, sou'-westers and sea boots.)

Having this speed makes it possible for " K " boats to get into an attacking position before the battleship duel begins—no other submarines could do this; those that left harbour at the same time as the fleet would not arrive till the action was over, and those already on patrol near enough to see the enemy would not have sufficient speed to place themselves in an attacking position unless by chance they were already there.

Given the necessary speed, the other essentials are as large a number of torpedo tubes as possible (which was fulfilled by building four bow and four beam), and a good tactician as captain (S) for the flotilla leader in a light cruiser. (During the war the battle fleet submarine flotilla was fortunate in having an exceptionally able tactician as captain (S).)

In the battle formation of the Grand Fleet, during the war, the " K " boats were stationed 10 miles ahead of the main battle squadrons with various light forces spread out ahead of them to a distance of about 25 miles.

On the screening forces sighting the enemy and reporting by W/T. the captain (S) had to manœuvre to place his flotilla ahead of the probable course of the enemy battle fleet, and, if possible, slightly on the side furthest from our own heavy ships.

When in position the boats were detached in pairs to act independently; generally, at least three pairs could be counted on as being present, the distance between them varying according to circumstances to ensure that two pairs got in their attack even if the enemy made a considerable alteration in course.

The boats of a pair then separated to about one mile, by previous arrangement, to avoid the chances of underwater collision, and prepared for diving. When the leading enemy ships were about four miles off the boats would dive, taking at most five minutes, as they would be already trimmed down; and it must be remembered that the conning tower, end-on, is very difficult to see even in calm weather at two miles, and in action the firing of our light forces would probably distract the attention of enemy look-outs sufficiently to ensure the " K " boats being unobserved.

After diving the range of action is very much restricted, and unless the captain (S) had slipped the boats in the correct positions the enemy would pass out of range of the boats, which can only proceed at seven knots when submerged.

Should the boats be in the correct position, the action radius of seven knots for about one hour would be more than sufficient, as the high speed would not be much required, and long before the hour had elapsed the action would have passed over the horizon.

Unless the enemy turned 16 points shortly after the " K " boats dived, they must pass close to them, or else turn away towards our own battle fleet, either procedure suiting the commander-in-chief whose tactics would be formed accordingly.

Taking the first case of proceeding on the same course or turning slightly away from our battle fleet; the " K " boats would find themselves in an ideal attacking position from which their experienced captains could not fail to obtain at least 60 per cent. of hits and probably would obtain 90 per cent.

Imagine 29 torpedoes hitting before the gun duel had even begun!

If the enemy turned towards our battle fleet, or turned 16 points when 4,000 yards away, the submarines could still fire " browning " salvoes of torpedoes set for 19 knots, of which, by the laws of chance, at least 25 per cent. would hit, and several ships would probably be damaged enough to be unable to keep in the line.

Even if the submarines were sighted during their attack only capital ships could ram them if at periscope depth, and in the unlikely event of destroyers carrying depth charges during a fleet action, it seems improbable

that many boats would be sunk before they had time to fire their torpedoes.

The time taken to reload the tubes makes it unlikely that many "second shots" could be fired before the enemy had passed out of range; the boats would then, after attacking stragglers, concentrate on a pre-arranged line off the enemy coast to intercept returning ships.

* * * * *

Critics also deride the usefulness of "K" boats on patrol, forgetting that to be present in a fleet action is the primary cause of their existence—patrols were a secondary consideration introduced chiefly for exercising the boats, which were found to suffer from numerous minor breakdowns after too long a period in harbour, and from this point of view patrols were most beneficial, the average number of effective boats being nearly doubled after a few weeks of patrols. The duty of a "K" boat on patrol is rather different to any other submarine on look-out duty.

Should an enemy vessel be sighted the "K" boat reports at once, and probably has finished her signal and "trimmed down" before she is seen herself; and can then get to periscope depth in four minutes, her external hull being under water in less than two minutes; the chance of a shell damaging her inner hull when in this position is extremely remote, especially at short range when shells would burst, or ricochet, on the water or her outer hull. The superstructure might be shot to pieces without doing more damage than flooding the conning tower and lower funnels, which could easily be adjusted for in the trim.

The objections to the discomforts of living on the boat, and of being "one of a crowd," instead of having a little action alone, and consequently reaping all the credit, are both obvious and true; but the writer hopes this essay will save "K" boats from a little of the unmerited ridicule heaped on them by so many submarine officers who, in many cases, have never seen one, and have no conception of their duties and tactics in action.

To sum up in brief the use of "K" boats, it may be said that:—As surface ships, they can get to the scene of action and choose their attacking position, after which they have, except for a small difference of speed, the same chance of making a successful attack as any other submarine in the same position.

BRITISH FOREIGN POLICY.

I. The Menace in the Pacific.

The near future should see the conclusion of the war in Europe and the endeavours of the Allies should in the course of time settle the questions in the far, central and near East.

However, the present turmoil having subsided, no matter what be the final settling, the question of our foreign policy in the far East will remain as unaltered as at the present.

Three states are vitally interested in that large portion of the earth, viz., United States of America, Japan, and Australasia, whilst Canada is involved and therefore Great Britain and the whole British Empire at large.

Of these states the first two are undoubtedly already very much watching one another, mainly for two reasons; (*a*) commercial rivalry in the far East; (*b*) expansion and increasing population of Japan. Commercial success must result in loftier aspirations and expansion in all directions must follow. Already the Japanese race is increasing enormously in numbers and their home country is overcrowded. It must find elbow room somewhere and it is because of this that the trouble in the future will come.

As a result of the Russo-Japanese War the pressure was then relieved by the acquisition of Korea, but that has merely postponed the storm. There are four directions in which this race can move;

(*a*) North to China and Eastern Siberia.
(*b*) East to America.
(*c*) South to Australasia.
(*d*) West to the Phillipines, Malaya and India.

China and Siberia.

China herself has already put limits upon further penetration, and moreover, any advance in such a direction by one power would be strongly resented and checked by all the others, who one and all are concerned in the commerce, etc., there. The questions in Eastern Siberia are to be settled at the coming Peace Conference and the status there decided upon will be upheld by all the signatory powers. Hence Japan finds a barrier to the north; moreover such cold regions do not hold out the best prospects for successful expansion.

America.

The United States of America has already a question in Mexico to settle. When this is eventually cleared up it will no doubt not be exactly to the liking of Japan. The upholding of the Munroe Doctrine and the present opposition to Japanese immigration by the United States

and Canada all tend to irritate Japan, who can hardly attempt to force the question at any rate in this direction, for the large distances form too great a handicap. But they can easily form the *causa belli.*

Australasia.

The policy of White Australia and the determination of Australasia to keep the yellow races at a distance must receive support from Canada and the United States and despite the present treaty between Great Britain and Japan (though it can hardly be renewed in the future) the British Empire as a whole is affected, for its policy in future must be very much influenced by the Dominions overseas.

Westward . . . .

India.—The Indian Empire already has enough difficulties and internal questions to contend with and cannot allow further source of trouble in wholesale Japanese immigration—again here there is a question for the British Empire. However, India is a long way from Japan and though it would provide an excellent halfway house on the route to Europe is not likely to attract her when there are other lands nearer at hand.

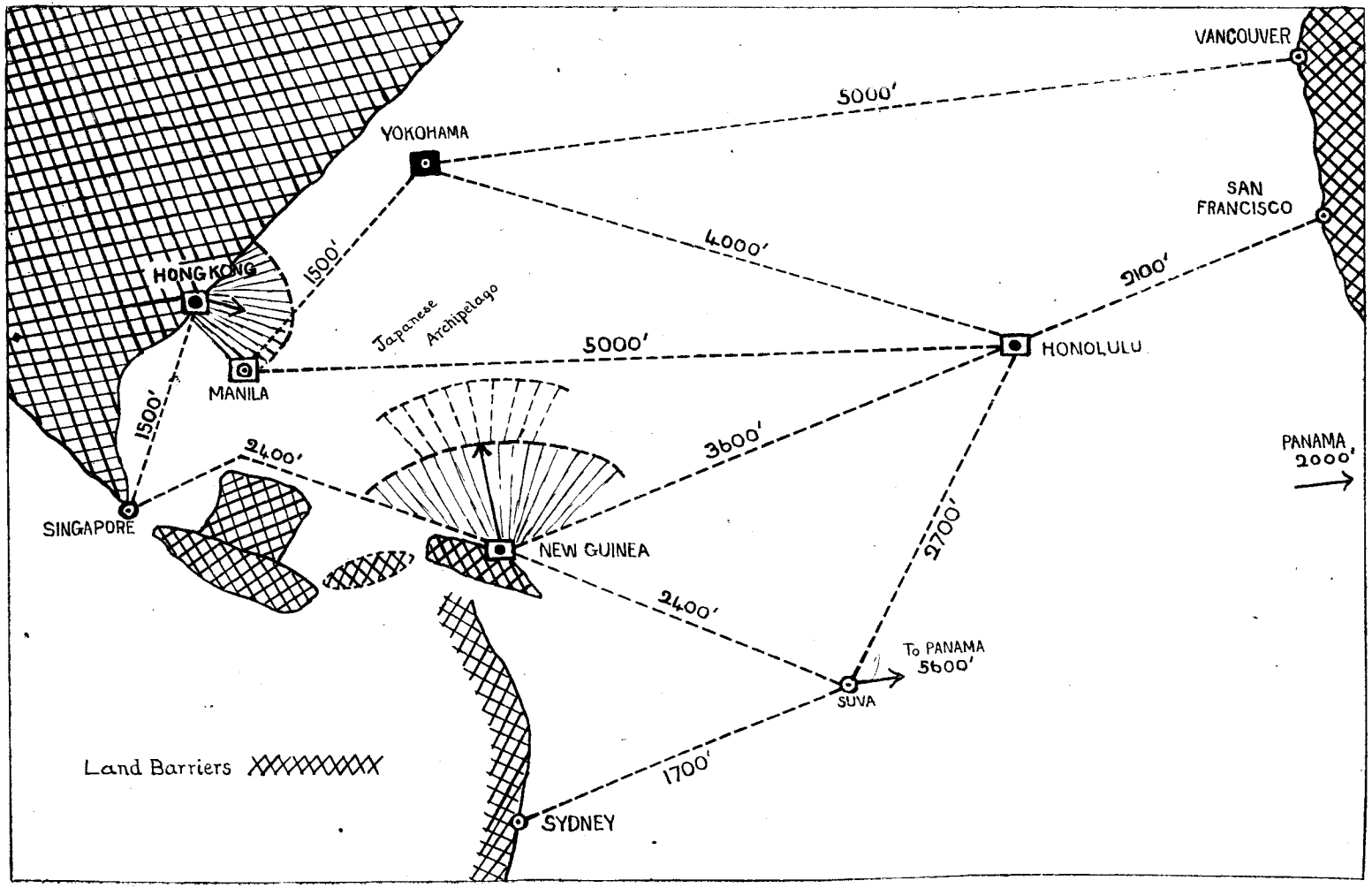
Malaya.—This country presents almost the best field for operations by the Japanese; but here again what is to be the policy of the British Empire must equally refer to the whole. Japanese expansion is only desirable to them if they can see an ultimate chance of gaining the control of the country. Here, that would mean accepting war with the British Empire and trying to force an occupation in a country in the face of the enormous reinforcements close at hand.

The Phillipines.—From all points of view this large group of islands appears to be the ideal sphere for the Japanese, a country full of possibilities in the hands of such an energetic race, close to Japan herself and now held by the United States by right of conquest. Once firmly settled in these islands she could spread out her arms to the west and the south into Malaya and that sphere of riches the East Indies.

In the event of a war between the United States and Japan, the latter power is certain of initial success in an attempt to reduce and capture this group of islands. Her strategical position on the flank of the communications of the United States places her in a powerful position, whilst submarine activity working from the numerous possible bases in the Japanese Archipelagoes isolates the Phillipines from any help from the east. It would be a naval war, and so long as Japan could keep the command of the seas there, she must be all powerful. The United States would be very heavily handicapped for her nearest base is Honolulu, 5,000 miles from the Phillipines and 4,000 miles from Japan.

II. British-American Co-operation.

The question therefore arises as to what position should the British Empire assume. Can it remain neutral? Supposing so and that Japan succeeded in retaining the Phillipines, we would have to accept the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3600'
PANAMA 2000'
SINGAPORE
NEW GUINEA
2700'
2400'
To PANAMA 5600'
SUVA
Land Barriers
1700'
SYDNEY

threat of the further expansion into Malaya, the East Indies and into Australasia and the upsetting of a balance of power in the Pacific, besides probably incurring the enmity of the United States. We could not possibly accept such conditions and therefore the British Empire must join the United States and maintain the present *status quo*.

The first objective of co-operative action must be to keep the Japanese in check at sea by the forces available on the spot at the first threat of hostilities, and hold them so until the main fleets arrived. It would appear that the United States in future must maintain naval forces of no small power at the Phillipines; she has now a huge Navy and the only threat is upon her western shores, so that her main fleets at any time should be in the west.

The British Empire must therefore have available such forces as are necessary to produce a combination of strength which is sufficient to hold in check the whole Japanese Navy. Distances are large so that speed and endurance are essential. Considering this, a study of the attached map points to two or three necessities.

1. At Hong-Kong. Naval forces to maintain an effective offensive upon the flank of the Japanese attack; capabilities of self-defence.

2. At New-Guinea. Forces to patrol and guard the flank of the lines of communication of the United States; *e.g.*, prevention of raiders, of mine-laying and of submarine activity amongst the Archipelagoes.

3. Western Pacific. Such forces as are to combine with the forces of the United States must be within easy reach to make this junction possible as soon after the first sign of hostilities as is practicable.

III. British Naval Forces in the Pacific.

Based on the assumption that the United States will have a squadron of battleships in the neighbourhood of the Phillipines and adequate local defensive patrols, etc., provision then has to be made by the British Empire, as far as naval forces are concerned, to ensure that the three essentials above-mentioned are available. They are as follows:—

1. At Hong-Kong.
   - (*a*) A sea destroyer flotilla.
   - (*b*) An offensive submarine flotilla.
   - (*c*) Patrol destroyers and submarines to assist in the defence of the port.
2. At New-Guinea.
   - (*a*) Two squadrons of light cruisers.
   - (*b*) A sea destroyer flotilla.
   - (*c*) Defensive patrol flotilla of submarines and destroyers.
3. Available for "Concentration."
   - (*a*) From the China station.
     1. Two battle-cruisers.
     2. Two battleships in reserve at 14 days' notice.
     3. A light cruiser squadron.

(*b*) From Australasia.
1. Two battle-cruisers.
(*c*) From Indian waters.
1. A light cruiser squadron.

Present Forces Available.

At the present moment there is a large fleet at the disposal of the British Empire which must necessarily be reduced in numbers to be maintained and which will have to be dispersed to their peace stations; all cannot be maintained at their full strength so some have to be placed in the second fleet and others sold, etc. Certain particular ships are now available to fill the positions above enumerated.

1. For the New-Guinea operations.
(*a*) The squadron of four "Melbournes."
(*b*) A squadron of four "Birminghams," which could be transferred from the Royal Navy to the R.A.N. to replace obsolete small protected cruisers at present maintained by them.
(*c*) A flotilla of six or more of the modern destroyers to replace the six "Parramattas," which could be placed in the reserve to be manned upon mobilisation and form the New-Guinea patrol force for its defence.
2. Available for concentration with the United States force.
(*a*) China.
1. Indomitable, Inflexible.
2. Two Colossus class.
3. Four Comus class.
(*b*) Australasia.
1. Australia, New Zealand.
(*c*) Indian waters.
1. Four Weymouth class.

The naval forces available for concentration will, in the course of a few years, have to be strengthened by capital ships of more recent construction; *e.g.*, two modern battle-cruisers from Australasia.

ESCAPE OF THE EMDEN FROM TSINGTAU.

THE proceedings of the Allied China Squadron from the outbreak of war till the end of 1914 have already been published in this REVIEW[1]; no attempt was then made to indicate the factors which had governed the movements of units or to reveal the problem which had presented itself for solution on the outbreak of war on that distant station.

The success of the Emden's cruise and the honourable reputation gained by her captain, no less than the dramatic ending of her career off the Cocos Islands, under completely fortuitous circumstances, will serve to invest the Emden's escape from Tsingtau with a special significance and interest. It is therefore desirable that the circumstances attending this episode of the war should be known and the strategical problem, as it was revealed at the time, clearly understood.

At 3 a.m. on July 30th the British China Squadron left Wei-hai-Wei in possession of reliable information that the Emden was in Tsingtau harbour and that no other German sea-going fighting unit was present at that port. The whereabouts of the Scharnhorst and Nürnberg was uncertain but they were known to be in southern Pacific waters, the Gneisenau was at Singapore and the Leipzig at Mazatlan (Mexico).

Later on this same day the Gneisenau left Singapore for an unknown destination and was not again heard of during the period covered by this narrative.

The destination of the British squadron was South Saddle Island, one of a group of sparsely inhabitated islands some 50 miles from the mouth of the Yang-tse-Kiang. It is important to note that the decision to utilise these islands as a temporary measure in certain eventualities had been made a long while before and the necessary diplomatic and administrative measures had been taken accordingly, a fact which the Admiralty was well aware of and had concurred in.

Under these circumstances it was with some surprise and chagrin that orders were received to proceed to Hong-Kong some 1,450 miles distant from Tsingtau.

On arrival at Hong-Kong the squadron was reinforced by H.M.S. Triumph and the French cruiser Dupleix; all ships were made ready to leave instantly should war be declared in order to return hot haste to the Saddle Islands, so as to regain a position between the enemy's probable position and his base or, alternatively, to blockade that base should the enemy meanwhile have returned to Tsingtau.

Orders to commence hostilities at 8 a.m. (local time), August 6th, were received and the departure of the whole squadron[2] was accordingly planned for that hour.

[1] NAVAL REVIEW, 1915, p. 312.

[2] Minotaur (Flag), Triumph, Hampshire, Dupleix, Newcastle, Yarmouth, 2 sloops, 5 destroyers.

At about midnight, August 5th-6th, reliable intelligence reached the British Commander-in-Chief that the Emden had left Tsingtau p.m. on August 5th accompanied by four colliers. This information profoundly altered the whole situation and must be considered in conjunction with the following factors governing the situation :—

(i) Gneisenau left Singapore on July 30th and not reported since.
(ii) Scharnhorst and Nürnberg reported off north-east coast of New-Guinea.
(iii) French cruiser Montcalm due at Samoa August 7th from Tahiti and possibly unaware of the outbreak of war.
(iv) H.M.A. Ships Australia, Melbourne and Sydney to the southward of the Scharnhorst and Nürnberg.
(v) Prinz Eitel Friederick and the captured Russian volunteer ship Riesan arrived at Tsingtau and therefore potential armed auxiliaries.
(vi) No indications of Japan being in any way involved in the war.[1]
(vii) Austrian cruiser Kaiserin Elizabeth lying in Tsingtau.[2]

It was obvious that the Emden could not be prevented from passing to the eastward of Kiusiu (Japan) and gaining complete freedom of movement in the Pacific; moreover, it was a reasonable assumption that the colliers accompanying the Emden were intended for the use of the German Pacific squadron, but whether the Emden would or would not remain in company with her convoy was an open question.

The principles of war indicated that German naval units under the command of Vice-Admiral Graf von Spee would concentrate; the departure of the Emden accompanied by colliers showed that the intended point of concentration was not Tsingtau, although that fortress and base might still be the final destination of the enemy's squadron. With no reason to anticipate Japanese intervention and recollecting the "loss of face" which the Germans were bound to suffer by abandoning the China Seas, it indeed appeared certain that their squadron would return and give battle to any force attempting to bar their way.

On this assumption the British admiral, confident in his ability to destroy the enemy's squadron should it return, might have carried out his original intention of returning to the Saddle Islands in full force, but to have done so would have entailed the abandonment of a vigorous offensive and the adoption of a parochial view of his duties, whereas the broader view, which took into account the danger to the empire arising from a powerful enemy force in the centre of the Pacific Ocean, entailed strenuous endeavour to interfere with the enemy's movements and more particularly the interception of enemy units on passage to the point of concentration and the destruction of their base.

[1] The Anglo-Japanese agreement did not require Japan to intervene in support of Great Britain in the existing circumstances.

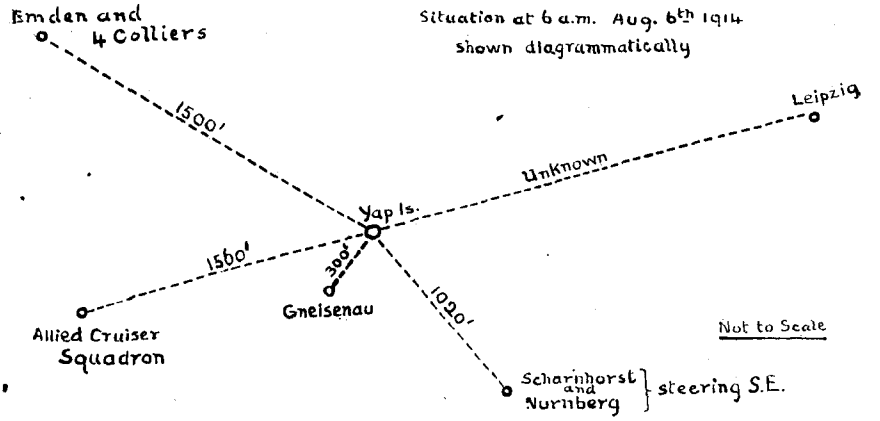
[2] Great Britain had not declared war on Austria.

If the Emden and/or her convoy could be found the base would become known; if the base could be conjectured the chances of intercepting the convoy would be greatly facilitated and this was the problem suddenly presented for immediate solution for, as always in war, time was a factor of the utmost importance.

The Island of Yap (Uap), situated in lat. 9.30 N., long. 138.10 E., was the seat of government of the Caroline Islands. A narrow channel through the coral reef surounding the island gives access to Tomill Haven, a perfectly safe anchorage provided with wharves and coaling facilities and capable of harbouring a considerable number of ships. A stock of coal was known to be kept at Yap for the German Navy, a powerful wireless telegraphic installation had been erected on the island which also formed a landing station for the Pacific Ocean cables connecting San Francisco, the Celebes Isles and Shanghai.

The importance of this island is obvious; it was rightly considered as the secondary coaling station of the German Pacific squadron and, moreover, a survey of the whole central Pacific failed to disclose any other harbour providing facilities as a base. Unless the German admiral had definitely abandoned all intention of contesting the command of the China Seas it appeared most probable that Yap Island was the immediate destination of the Emden and her convoy.

The position of Yap Island relative to the presumed position of the opposing forces at 6 a.m., August 6th, is shown diagramatically below :—



On the assumption that the point of concentration had been correctly conjectured it will be seen that the Gneisenau would be already nearly there and would have ample time to coal and reinforce the convoy should any suspicion arise that the latter was endangered.

The Scharnhorst and Nürnberg were some 500 miles closer to Yap than the British but indications from wireless telegraphic messages showed that these ships were still proceeding to the south-westward and it was surmised that they were seeking out the Montcalm. Their im-

mediate return to Yap was recognised as a possibility and this danger taken account of and balanced against the prospects of decisive success should they not do so in time or be found in harbour, in the act of fuelling.

The position of the Leipzig was unknown, but it appeared probable that she was still far distant from Yap Island.

The British Commander-in-Chief determined to go to the vicinity of Yap Island and to seek out the Emden and her convoy from there; also to visit and destroy the German base at Tomill Haven. Having taken this determination it remained to select the force which however resolved itself into a question of what ships could proceed to Yap Island at 14 knots, cruise in the vicinity for one or two days and return to the Saddle Islands. The Minotaur, Hampshire and Newcastle were alone capable of this and were considered a sufficient force for the operation.

At 6 a.m. on August 6th, the whole squadron sailed from Hong-Kong, the selected ships proceeding to Yap Island the remainder going north to the Saddle Islands whence they watched the exit from the Yellow Sea.

As is well known the German squadron never went to Yap Island, the Emden and her colliers proceeded to the Mariana Islands, some 600 miles to the eastward of the Caroline group, and there the anticipated concentration took place.

Subsequently the Emden was detached and reappeared off Calcutta.

The first part of the strategic game was played out and Graf von Spee had scored an initial success.

The student of strategy is invited to place himself in the position of the British admiral during the middle watch on August 6th; if he carefully resists the temptation to be wise after the event he will find a problem as interesting as any in chess.

GERMAN BATTLE CRUISERS' ATTACK ON THE HARTLEPOOLS.

By an Officer of H.M.S. Patrol. December 16th, 1914.

H.M. ships Patrol (Captain Alan C. Bruce), Forward (Commander F. P. Loder-Symonds), and submarine C.9 (Lieutenant C. L. Y. Dering), and a division of four "E." class destroyers, were stationed at Hartlepool being berthed alongside the jetty in Victoria Dock. The submarine was not fitted with wireless.

The defences of Hartlepool consist of a battery of three 6-inch guns situated close to the lighthouse which was also the position of the Port War Signal Station.

The harbour is very small for a vessel of 400 feet in length and is approached by a narrow channel with a depth of 14 feet on the bar at low water. The Patrol and Forward would therefore touch at low water as they drew over 15 feet.

The Victoria Dock is really a tidal basin, one portion of it being the fish quay; it was not an easy place to get out of even with the assistance of a tug on account of the narrow entrance.

At 5 a.m. on the 16th December, 1914, the destroyers Doon (Lieutenant-Commander H. McL. Fraser), Waveney (Lieutenant R. W. H. Roberts), Test (Lieutenant C. H. Knox-Little), and Moy (Lieutenant C. C. Naylor), were sent out to patrol five miles off the entrance parallel to the coast.

At daylight the weather was very misty and objects could only be seen distinctly at about 6,000 yards—perhaps less. Wind N.W.4. A moderate N.E. swell running.

At 8.5 a.m., when somewhat to the northward of Heugh Lighthouse, and steering to the southward, the destroyers sighted some cruisers in the mist slightly on the starboard bow, *i.e.*, inshore of them. Doon, the leader, increased speed without signal, and shortly afterwards was fired on being straddled by the third salvo and by two others.

The destroyers spread and were chased to the north eastward by the enemy, Doon, Test and Moy being hit.

Doon's w/t was hit before she reported the enemy to Patrol, but Test a little later made "Enemy in sight," although she thought it had previously been reported.

At 8.10 a.m. Patrol heard firing and about the same time received a telephone message from the Port War Signal Station: "Three ships in sight, not answering challenge. Apparently firing to seaward."

The Patrol immediately prepared to slip, and asked the P.W.S.S. what class of ships they were. Only a portion of the reply was received, as the telephone cable was disconnected and the ship cast off from the jetty.

Patrol received Test's signal at 8.15 a.m., and replied "What enemy?" "Am slipping to support you."

As Patrol went astern from the jetty and out of the entrance to the Victoria Dock, shot fell on the houses and in the basin close alongside.

C.9 followed close astern of Patrol, but the tug after being slipped by Patrol would not face the basin in which shot were falling, and so left Forward to get out unassisted.

This considerably delayed Forward, she also touched on the bar and did not get out of harbour till half an hour after Patrol.

When Patrol backed astern and brought the fairway channel in sight, it was observed to be a mass of falling shot and bursting shell the firing by that time being very rapid.

The telegraphs were put "Full speed ahead," and the Patrol commenced her dash through the hail of shot falling in the channel.

One shot passing over the ship struck a new steamer completing alongside the shipbuilding yard opposite the entrance to Victoria Dock, killing two men (*a*), and a house on the port hand (*b*), was seen to fall about this time.

The workmen on board the steamer had collected and were cheering Patrol as she steamed out, but they quickly dispersed when their vessel was hit.

A reply was then received from Test to say "Enemy are two battle cruisers." Waveney also reported "Two battleships, Dreadnought class."

There was nothing for Patrol to do but go on.

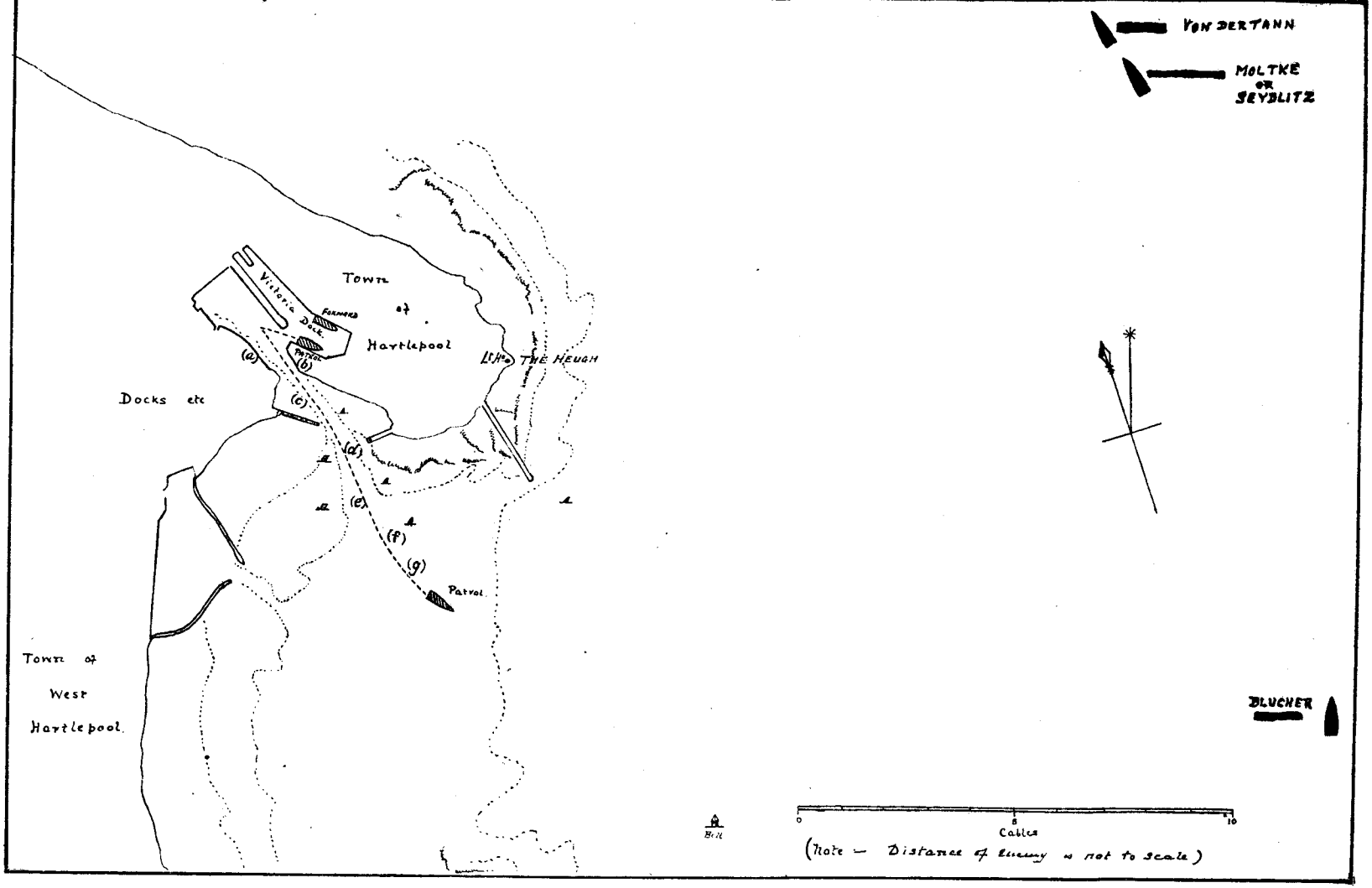
During the whole of the time that Patrol was steaming down the fairway channel she was passing through a zone of very heavy and rapid fire.

Shots were falling very close to the ship some so close that their splashes came on board. The after gun's crew in particular were drenched through.

Fragments of shell from bursts short were flying over the ship. A fragment was afterwards discovered embedded in the heel of the topmast, and two small fragments pierced the funnels near the top. None of these fragments, however, did any material damage.

When the ship was abreast (*b*), a fragment of shell passed over the upper bridge severing the awning ridge rope on the port side and grazing the semaphore (cutting the chain) on the starboard side of the upper bridge.

A shot which passed close across the bows of the ship hit and smashed to bits a lighter on the mud at (*c*).


VON DER TANN
MOLTKE OR SEYDLITZ
BLUCHER
Town of Hartlepool
Victoria Dock
Fairmead Dock
Patrol
(a)
(b)
(c)
(d)
(e)
(f)
(g)
Docks etc
Lt. House
THE HEUGH
Town of West Hartlepool
Patrol
Hill
0
5
10
Cables
(Note — Distance of Enemy is not to scale)

When at (*d*), abreast the inner breakwater a ship which appeared to be a large cruiser was sighted a long way ahead in the mist. This was probably the Blucher.

Just after this the Captain and Navigator who were on the upper bridge, were knocked down by the concussion of a burst close to, or by the wind of a projectile just over their heads. The effect, however was only momentary and they were quickly on their feet again, both being slightly injured.

Almost immediately after this the ship was hit by two 11-inch shells practically simultaneously. One of these hits was about 6 feet above the water-line on the fore lower mess deck. The shell punched a clean hole in the port side (the piece of side plating being afterwards found intact) and passed right through the ship going out on the water-line the starboard side.

The other hit was on the water-line on the bulkhead separating fore lower mess deck and E.R.A.'s mess. This shell burst and fragments riddled both the mess deck and the C.P.O.'s flat.

When the ship was at (*e*), she was hit again this time by a 5.9-inch shell. This shell hit fairly high up on the ship's side a little before P-2 gun apparently exploding outside the ship doing little damage.

As the ship neared the fairway buoy (*f*), she opened up what appeared to be two battle cruisers, very indistinct, about 7,000 yards off firing hard.

These were the Von der Tann and Moltke or Seydlitz, and they directed their fire on Patrol, the first salvo falling 500 yards over, the second just over, one shot being in the wake about ten yards astern of the ship.

On sighting the enemy Patrol signalled to the destroyers to attack with torpedoes.

Just after this the ship grounded and brought up at (*g*), the time being about 8.45 a.m.

The ship began to roll very heavily—dipping two planks of the upper deck under water—and it was reported that she was making water and that the carpenters were plugging several holes.

Both engines were put full speed astern in the endeavour to get the ship off, but she did not move.

The engines were then put full speed ahead starboard, full speed astern port, and the helm hard-a-starboard, endeavouring to turn to port.

Still the ship would not move. The engines and helm were then reversed and the ship's head paid off slowly to starboard. Both engines were then put full speed ahead and the ship slid slowly over the bar a big swell helping her.

During the whole of this time the ship was under heavy fire from Von der Tann and Moltke or Seydlitz, shot falling around and close to the ship; Blucher did not appear to be firing. The fact of the ship

being aground instead of moving through the water probably accounts for the few times she was hit.

Submarine C.9, who had been following close astern of Patrol was being straddled continuously. One salvo was observed to fall all around her, and a fragment of shell struck her conning tower.

She dived when at about position (*f*), while Patrol was aground. She also struck bottom, and by the time she got out the enemy had gone.

Just as Patrol got clear of the bar the Von der Tann and Moltke or Seydlitz were observed to be turning together to port still firing hard as if to finish Patrol off. They ceased firing however, at 8.50 a.m., and proceeded to the eastward at high speed.

It was realised that it would be impossible to recross the bar and return to Hartlepool, and as a further report was made that water was three feet deep on both mess decks and gaining, that no more holes could be found, and as she was rolling heavily in an unstable manner orders were given to turn out all boats, the men leaving their guns with great reluctance, and the ship made for the Tees the nearest shelter and a defended port.

The Forward was observed to be coming out at 8.45 a.m., and she was about abreast the inner breakwater when the enemy turned to the eastward. She never sighted them at all, by the time she was out they had disappeared in the mist.

Meanwhile the destroyers who had been driven off by the enemy were far away and considerably scattered. Doon was unable to collect them together on account of the failure of her wireless and searchlight.

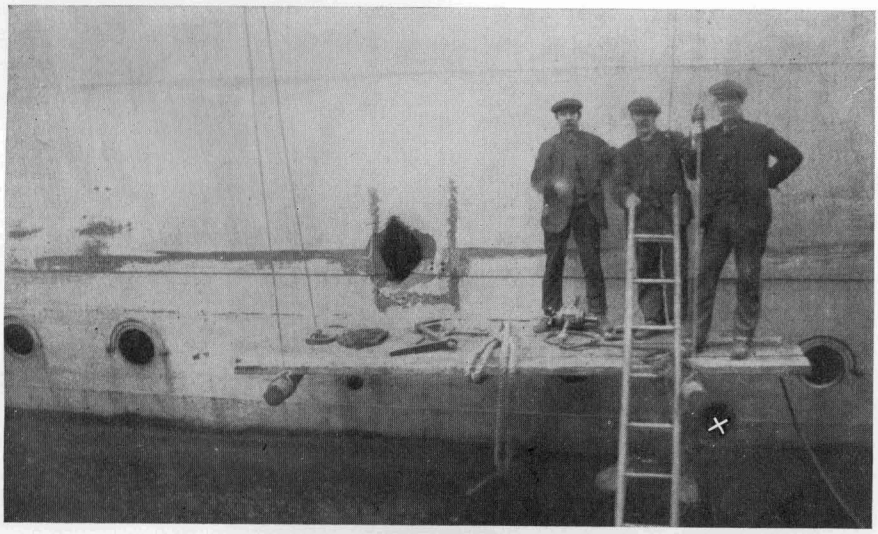
As it was clearer to seaward they thought it would be no use making a torpedo attack, it seems a pity that it was not attempted (except by Test who had a much shorter range torpedo), as there was probably a sporting chance of it succeeding while the enemy were engaged shelling the town and firing on Patrol.

The Fortress Commander, Colonel F. Robson, R.G.A., makes the following remarks :—

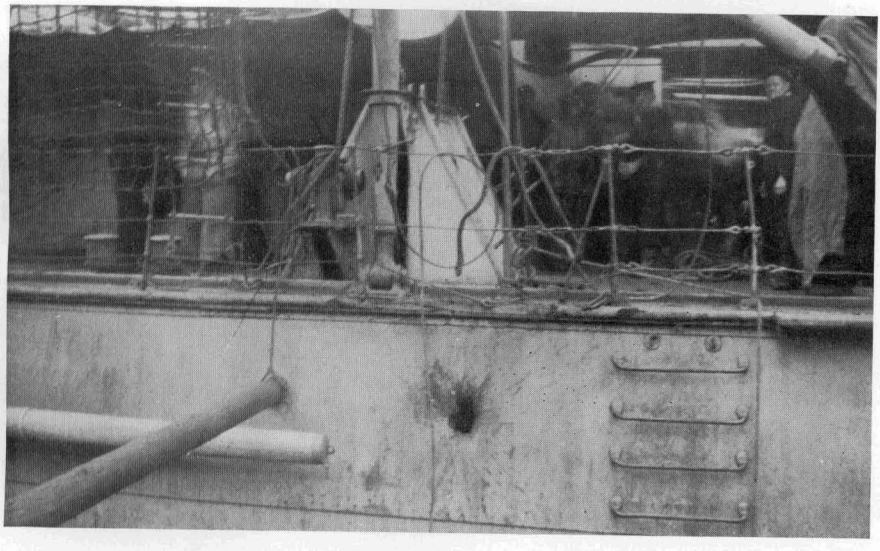
On getting the report from P.W.S.S. that "Three warships were coming in at speed," I asked "What are they?" and received the reply, "I think they are British ships, Indomitable class."

The leading ship was then passing the lighthouse, when she opened fire at 8.10 a.m.; it was then seen she was the Von der Tann and the Heugh Battery returned the fire, range 4,150 yards. The lighthouse gun opened fire on the rear ship which was the Blucher at 6,000 yards, the first two shots fell short, a plus correction each time made the third round a hit on her fore bridge.

The battery fired 70 rounds at Von der Tann.
,, 20 ,, Moltke or Seydlitz.
,, 30 ,, Blucher.



TWO 11″ HITS ON PATROL.
ONE ON WATERLINE.



ONE 5·9″ HIT ON PATROL.

The shore battery returned the enemy's fire and seems to have inflicted a certain amount of damage to both Blucher and Von der Tann. According to statements made by men rescued from the Blucher after the action in which she was sunk, they had 10 killed and 20 wounded, besides two guns out of action.

None of the guns at the battery were put out of action, but the concussion of shell bursts upset the mechanism of the automatic sights and firing had to be continued with the direct sights. The Captain of the Blucher when rescued, stated that he had sunk the cruiser coming out of Hartlepool.

The Patrol arrived and anchored in the Tees at 9.10 a.m. (exactly an hour after getting under way), and it was then possible to ascertain the extent of the damage.

It has already been mentioned that one 11-inch shell struck the ship on the water-line, another 11-inch shell passed right through the ship and made a hole on the water-line on the disengaged side.

The hole on the engaged side was plugged as far as possible during the action but no one thought of looking at the disengaged side until later when it was found that the ship was still making water rapidly.

The water was over three feet deep on both mess decks, and as there was no means of draining it off and the hand-pump was disabled, it was a considerable time before it was got rid of.

The amount of internal damage done by the 11-inch shell which burst on the bulkhead separating the lower mess deck and the E.R.A.'s mess was not so great as one would have expected.

Fragments of shell riddled both mess decks destroying such things as mess kettles, marines' helmets, filter tanks, looking glass, etc., and twisting a marine's bayonet in a most ludicrous manner.

Two cases of identical damage done in separate compartments are worth mentioning. The iron ladders leading to the upper mess deck each had a step knocked out, and in each a deadlight was pierced and the glass of the scuttle shattered.

The steam pipe to the capstan engine which led along the mess deck beams was cut through, but as steam was off it was immaterial.

The soft iron cap of a shell was found on the lower mess deck It had apparently struck the starboard side about ten feet above the mess deck and failed to penetrate, simply making a large bulge.

All the other fragments found were fairly small. When mounting one of them as a memento it was found that the metal was so hard that it was impossible to drill a hole in it.

There was no smoke from the explosion and no signs of any incendiary effect, but wounded men picked up on the mess deck had the appearance of having rolled in a mixture of sawdust and flour.

The 5.9-inch shell struck the ship's side on the bulkhead dividing two coal bunkers, making a clean hole with radial cracks from it.

The bunker was subsequently cleared but no trace of the shell was found and it was concluded that it burst outside the ship.

Splinters cut the beading of the deck and some very small ones riddled the spray-shield of P-2 gun, one hitting the corner of the gun-layer's breast rest, the gunlayer being slightly wounded in the face.

Fragments of shells went through the tops of the funnels, one was embedded in the heel of the topmast, one grazed the upper bridge semaphore; and the steam cutter, in her crutches the starboard side, was hit on the counter.

There was also a curious mark, 10 ft. by 4 ft., of burned and splashed paint on the ship's side on the armour abreast the engine room as if it had been struck by a shell, which was apparently caused by a shell bursting close to the ship.

Of the destroyers the Test was the most badly damaged although she had no casualties.

She was hit by a 5.9-inch shell on a coal bunker and a very large hole was made in the ship's side, but the coal protection was sufficient to prevent the inner bulkhead from being damaged.

The Doon was straddled by three salvoes but there was only one direct hit an 11-inch shell grazing the after edge of the foremost funnel, damaging a berthon boat, and going overboard bursting.

Eleven-inch shell appear to have burst on striking the water giving off a black smoke, but 5.9-inch shell apparently did not.

The ship's side on the mess decks was pierced by many fragments of shell, one hole being on the water-line.

The after gun was put out of action by a fragment which hit the chase of the gun and bulged in the bore.

The after torpedo tube was bulged in a similar manner and the torpedo was jammed in the tube.

The wireless room was also hit by fragments and the gear damaged.

The Moy was hit by fragments of shell bursting short, dinghy and cowl being pierced.

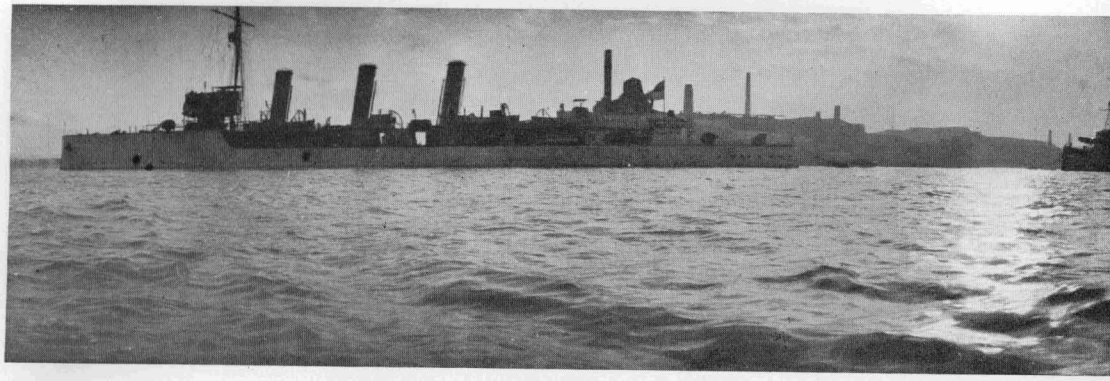
The casualties were :—

Patrol.—Four killed. Three badly wounded. Four slightly wounded.

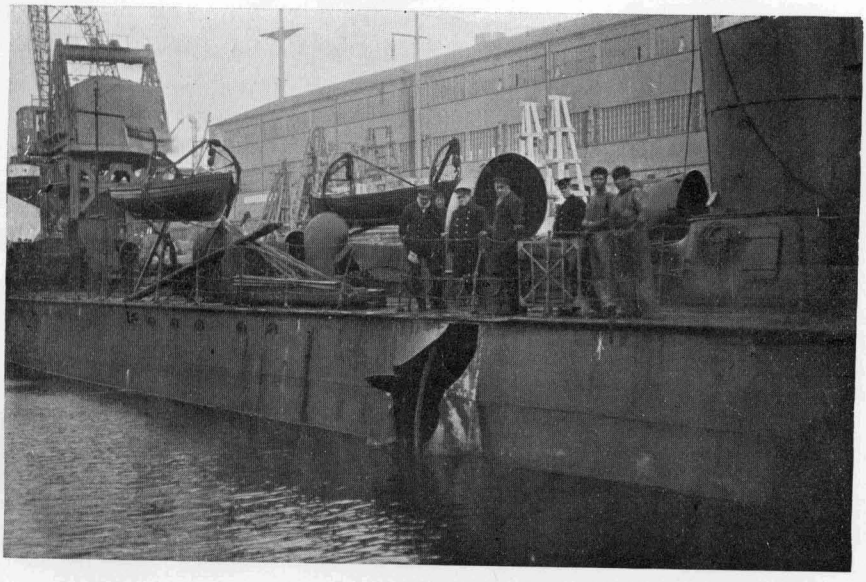
Doon.—Three killed. Four badly wounded. Two slightly wounded.

Test, Moy, and C.9.—Nil.

Forward and Waveney.—Not hit.



THREE HITS ON PATROL'S SIDE.



HIT ON TEST'S SIDE.

BOAT ATTACK AT DAR-ES-SALAAM ON NOV. 28TH, 1914, AND BOMBARDMENT ON NOV. 30TH, 1914.

THE object of this attack was to cut out, or destroy, or put out of action the shipping inside the harbour. The ships taking part in the expedition were the Fox (S.N.O.), Goliath, Duplex (a small armed merchantman) and a tug the Helmuth (captured from the Germans), and they left Zanzibar on the evening of November 27th. The Duplex's maximum speed at the time was barely four knots which rendered her of little use for work of this order.

November 28th.—The ships arrived at 6 a.m. and anchored off Dar-es-Salaam, the German flag on the lighthouse on Makatumbe Island being quickly hauled down and a white one hoisted in lieu. A gun was fired and the Goliath's picket-boat with a flag of truce was sent in without result, as she struck on a reef and smashed her rudder.

At 7.45 a.m. a motor-launch came out with the Acting-Governor (Mr. Humann), the district commissioner a Doctor Kausch (?) who spoke English fluently, and one or two other officials and went on board Fox, where Mr. King late Consul at Dar-es-Salaam acted as interpreter. They were informed that the object of the expedition was to put out of action all ships, tugs, lighters, etc.; that no injury to anybody or anything on shore would be done, but that if opposition was shown to our boats the town would be immediately bombarded.

The acting-governor asked for time and said he could give no guarantee without consulting the military authorities. He was told that operations would only be postponed until after he had landed and a short time allowed for him to inform the inhabitants of what they might expect. On his way in he touched at the signal station from whose flagstaff three white flags had been flying all the time and then disappeared about 9.45 a.m.

The Fox's steam-cutter which had been protected with plates on either side of her boiler and in the stern for the coxwain, started in under Lieutenant E. R. Corson, to sound and lay buoys to mark the channel.

It was decided to commence operations though only the Helmuth and Goliath's steam-pinnace were now available.

About 10.15 a.m. Helmuth disappeared round the bend. At 11 a.m. the senior naval officer's pennant was shifted to Duplex and the Goliath's steam-pinnace proceeded inside. It was a perfect day

with a gentle breeze and the three white flags were still flying at the flagstaff with no one to be seen about except an old lady in a carriage and pair driving along the front. At 12.15 the senior naval officer in the Fox's steam-cutter went in to examine the floating dock sunk by the Germans on outbreak of war. What happened has been narrated by one of those present as follows:—

"We drifted with the flood tide over the dock, the walls of which could be made out a couple of fathoms below water, then a good look with our glasses at the *hospital* ship Tabora (her chief qualifications apparently for the title, being a big red cross painted on either side and a red-cross flag at masthead), and were about to return to Duplex when suddenly fire was opened on us from both sides of the channel; there was nothing for it but to cut and run and in a trice we were laying cheek by jowl in the bottom of the boat, but she went slower and slower and it was an uncomfortable few minutes.

Soon the stoker was seen in a heap in the fore peak evidently badly wounded and there was no one stoking the fires. Lieutenant Corson immediately and splendidly nipped forward and kept them going—almost directly afterwards an A.B. collapsed and I saw a nasty hole in his forehead, then the coxwain with blood running down his chin was shot through the leg. His conduct was splendid, he kept as bright and cheery as if on a picnic saying, "Oh, that's nothing, we'll soon be clear of the channel, we are quite near the Duplex now," and so on.

He and Lieutenant Corson undoubtedly saved us, and the iron plates, against which the bullets kept ping-pinging although many got clean through without much trouble. How we blessed Corson for having rigged them up. We tried to keep each other cheerful but the coxwain (Leading Seaman Thomas Gallagher) was fairly frequently asked: 'How far off is the Duplex now?'[1]

When it was at last safe to get one's head over the gunwhale we looked astern and saw the three white flags still flying, in fact our boat must have been almost under these precious flags when the hail started.

The wounded seaman aft did not look as if he would live and we therefore set ourselves all the harder to be extra cheerful. Corson was splendid; after stoking up like mad he nipped aft again, held the A.B.'s head on his arm and comforted him.

Alongside Duplex we got water, a bandage or two, and made our way back to the Fox. The poor stoker died within half an hour of his return to the ship, Gallagher the coxwain was as cheery as ever, luckily having no bones broken."

The Goliath was ordered to open fire at once and with two or three 12-inch shell she very soon had the governor's residence in flames.

[1] Lieutenant Corson has since been awarded the D.S.C., the coxswain the C.G.M. and Broom, the leading stoker the D.S.M.

About 1.30 p.m. the Helmuth was seen coming out and at the same instant we heard her exit being heralded by a blaze of rifles, machine guns and a pom-pom (or some small field gun). She was towing two lifeboats full of men which turned out to be the crews of the König and Feldmarschall taken prisoners. She ran the gauntlet splendidly, but very soon it was noticed there was an ominous escape of steam and she seemed only to crawl along. Soon however, the shots fell fewer and fewer around her and she reached the Duplex just in time to draw fires. The auxiliary steam pipe was shot through, her main steam pipe nearly penetrated, while her hull and funnel were a mass of holes. Those in her side were plugged temporarily and she looked like a pin-cushion.

Lieutenant W. W. J. Orde of Goliath in command, three or four seamen and one of the German prisoners (a chief engineer in one of the boats towing astern) were wounded—none seriously, an extraordinary escape.

About 4.40 p.m., after we had almost given up hope that the steam-pinnace could get out, she was seen coming round the point with a lighter secured each side and three towing astern; these last three she had to cast adrift as they reduced her speed to under two knots.

Fox and Goliath immediately opened fire to cover her.

She had a bad time. Sub-Lieutenant L. V. Lloyd of Fox was dangerously wounded almost at the start, whilst Commander H. P. Ritchie H.M.S. Goliath, in charge of the operations was wounded in no less than eight places. His conduct and that of his coxwain was magnificent. Three or four men were also wounded.

The two lighters afforded excellent protection but they caused the steam-pinnace to yaw all over the place, twice while under fire she ran aground, and when we all thought she was about to get clear of the danger zone she suddenly stopped and sent up four rockets one by one.

We only had the Fox's small steam-cutter to go to her assistance for the Duplex and Helmuth's engines were broken down and the Goliath's picket-boat was smashed.

She was then seen to cast off both lighters which we sadly watched drifting ashore and then to our great relief she bounded forward and though very deep in the water and making a great bow wave she reached the Goliath.

Unfortunately it turned out that four officers and eight men were missing. The officers were: Lieutenant-Commander J. C. S. Paterson, Lieutenant V. J. H. Sankey, Surgeon E. C. Holton of the Goliath and Artificer-Engineer W. E. H. Turner of H.M.S. Fox.

How they got lost is not known. The officers were well aware of the risky nature of the business (they had been warned before starting) and were ready for anything.

It is just possible but highly improbable that the parties were left in König or Feldmarschall after putting those ships out of action. It is far more likely that the sight of the three white flags just visible over Ras Makabe lulled them into a false sense of security and that they did not wait for Helmuth's return (after towing prisoners out to Duplex), but decided to pull themselves in one of the König's lifeboats to the Tabora, where it was quite possible that the enemy, seeing the party were unsupported by guns, allowed them to come on board and go below and so kidnapped them.

Anyhow, whatever was the poor fellows' fate, nothing could be done for them, even if a boat had been available it would have been madness to have sent her back through that bottle-neck of fire.

Notwithstanding these losses the work they set out to do was practically accomplished for the König, Feldmarschall and Kaiser Willhelm II. were permanently disabled, the floating crane and several water tanks and lighters scuttled, the sunken dock proved to block the entrance to the harbour for large ships, and 35 prisoners (including one female accidentally) taken. Our losses were:—One man killed, three officers and eleven men wounded, four officers and eight men missing.

By sunset all the wounded had been got on board their ships and it was decided to return at once to Zanzibar, the Fox towing the Helmuth and Goliath the Duplex and we got away just before dark.

November 29th at Zanzibar. Goliath and Duplex arrived at 2 a.m., Fox and Helmuth 6 a.m., all wounded being sent to hospital. Fox left again with Helmuth in tow at midnight accompanied by the Adjutant—German tug captured early in the war—Lieutenant J. S. Hoffmann in command.

November 30th at Dar-es-Salaam. Fox, Helmuth and Adjutant anchored off Makatumbe Island about 6 a.m.—Goliath a couple of hours later.

Fox sent in a steamboat with flag of truce and also hoisted the signal "Send boat" but without result. The place seemed deserted, and this time no white flags were flying from the flagstaff.

Adjutant and Helmuth under Lieutenant Hoffmann of Fox were sent in to sweep and at 1.30 p.m. Goliath and Fox proceeded through the swept channels to their bombarding billets.

Fox fired two blank rounds with a five-minutes interval between them and shortly after about 2.30 p.m. hoisted "Open fire."

The bombardment according to plan previously arranged then commenced. Goliath's targets were the railway stations, Custom House, barracks, Government buildings, etc., within the main "town area," Fox's being the Government buildings, Casino, etc., to the east of the town; in other words, roughly speaking, Goliath's target-area included

everything to the west of a north and south line through the "Tabora," and Fox's everything to the east of that line.

Spotting was carried out by masthead officers, but what with hospitals, churches and high buildings of all sorts, to say nothing of the groves of palm trees, accurate marking was out of the question.

It is impossible to say what damage was done; any amount of dust was raised and bits of houses etc., could be seen flying through the air, but very few fires occurred; from all accounts the governor's palace which burned so furiously on 28th was very old and one of the only buildings largely built of wood.

At 4.30 p.m., Fox hoisted "Cease firing," and Adjutant, flying flag of truce, was sent close in to entrance. She remained there until dark (6.30 p.m.) but no communication with the shore was possible, not a moving thing was seen except a few natives, the white population having evidently taken train inland.

The approximate total of rounds fired during the two days November 28th and 30th was:—

12-inch	...	...	...	...	20
6-inch	...	...	...	...	400
4.7-inch	...	...	...	...	150

At 6.30 our small squadron dispersed, Fox and Adjutant to Rufiji, Goliath and Helmuth to Zanzibar.

OPERATIONS *inside* DAR-ES-SALAAM HARBOUR ON NOVEMBER 28TH, 1914.

The following is an account of what took place inside Dar-es-Salaam harbour on November 28th, 1914.

About 10 a.m., in pursuance of orders, we made for the entrance, through channel buoyed by Fox. We passed on our port hand the signal station with two white flags flying at the masthead, *over* the sunken dock with mighty little to spare, so it seemed to me—swung to port round the Tabora (on whose upper deck we made out some nurses and, apparently, some wounded) and so up the creek for about two miles, fetching alongside König at 11 a.m.

An official of sorts in a white motor launch (I believe the Governor's) followed us from the town and a short discussion took place between him and Commander Ritchie. The upshot was that the official returned to Dar-es-Salaam and we started in with our demolition work.

Both crews (König's and Feldmarschall's) were taken prisoners and put into two of the ship's boats alongside.

NOTE.—It was rumoured that the German governor's reply to a strong protest from the senior naval officer regarding the firing on our boats on November 28th was to the effect that they—the Germans—had been unable to lower the white flags owing to the very heavy British fire!!

Commander Ritchie in Helmuth, then proceeded further up the creek with a view to disabling the Kaiser Wilhelm II., tugs, lighters, etc., which had, evidently for safety's sake, been taken as far up the creek as possible. The water however was too shallow; Helmuth grounded and was only refloated by temporarily transferring crew and some stores to her boats. She returned to König and Commander Ritchie then embarked in Goliath's steam boat taking with him Sub-Lieutenant Lloyd and the torpedo gunner of Fox.

Our party was fairly successful, for it disabled the engines of Kaiser Wilhelm II. (she was found uninjured and evidently preparing for sea) and then proceeded to scuttle—a long and by no means easy job, thanks to current and mudbanks—several large water tanks and lighters, including a crane lighter. We then collected five other lighters, took three in tow and secured the other two one on each side of the steam pinnace for her protection. The steam pinnace with its lighters then made for sea.

Meanwhile the destruction (a lengthy business consisting as it did of exploding one 2¼ lb. charge of gun cotton under each cylinder, and a second 2¼ lb. charge inside the cylinder, the hole made by the first explosion allowing of the insertion of the second charge) of König's and Feldmarschall's engines was being carried out, and Helmuth with prisoners had, about 1 p.m., been dispatched to Duplex, dropping Surgeon Holtom alongside Tabora en route. The demolition parties thus left in König and Feldmarschall were under command of Lieut.-Commander Paterson (Goliath), assisted by Lieutenant Sankey (Goliath), and Artificer Engineer Turner (Fox).

After passing the Tabora, and noting with comfort that the white flags were still flying, the Helmuth was suddenly assailed from the north bank with a rain of fire from rifles and machine guns—steampipes were punctured, the Commanding Officer (Lieutenant Orde), and two coxwains in quick succession were wounded, and it was with greatest difficulty that steam was kept going sufficiently to enable her to reach Duplex.

To revert to the doings of the steam pinnace, she, with her five precious prizes and at a speed of barely two knots, passed König and Feldmarschall about 3.30 p.m. Seeing no signs of life on board either ship it was concluded that everyone had left in Helmuth, and steam pinnace did not therefore stop.

Heavy gun firing was heard soon afterwards and Commander Ritchie, wishing to get clear of the harbour as soon as possible, reluctantly slipped the lighters towing astern. The three white flags then hove in sight over Ras Makabe and it was decided to get the lighters in tow again. Before this could be done, however, a small boat with Surgeon Holtom in shern sheets was seen to shove off from Tabora and make for the steam pinnace, at same instant fire from machine and small q.f. guns was opened from all sides, including, it is believed (but this fact cannot be verified), the Tabora herself. Surgeon Holtom was seen to

fall or to lie down and the boats' crew pulled back to Tabora. Sub-Lieutenant Lloyd in one of the lighters alongside and two men were wounded in the first few seconds, Sub-Lieutenant Lloyd dangerously (bullet alongside lung).

The coxwain (Petty Officer Clarke, R.F.R.) was wounded, but stuck to his post until he collapsed, when he was relieved by Able Seaman G. Upton (has since received the D.S.M.), who in his turn was relieved by Commander Ritchie assisted by Petty Officer Clarke in his intervals of consciousness.

Commander Ritchie stuck to the wheel until the boat was through the worst part of the narrows, and then receiving a wound (his eighth) in the leg, was forced by loss of blood to give up, being relieved by Leading Seaman Wilcox. It was difficult to keep the channel, and after the lighters had grounded for the third time, it became necessary, to everyone's intense regret, to abandon them. The wounded were all transferred to the steam pinnace which made its way safely to Goliath.

CORRESPONDENCE.

The Narrative from the Indomitable.

February 21st, 1919.

Sir,—In the "Narrative from the Indomitable" which appears in the February, 1919, number of the Naval Review, this passage occurs on page 3: "In the following, orders, signals and information only are transcribed."

Fifteen pages follow, but criticisms are interspersed among the "orders, signals and information," which orders and signals are moreover incomplete. It is obvious that the accuracy or otherwise of a narrative told by means of orders and signals depends entirely on whether all the orders and signals are included in it or not.

In this case some of the most important signals are not given, resulting in incorrect impressions being conveyed; this I feel sure was not intended by the writer of the article, who probably never knew of the existence of the important signals referred to above.

In justice to the Commander-in-Chief, I think we must assume that the deliberate judgment of the Board of Admiralty, as set forth again in the press of Friday, February 21st, is correct; as the board (unlike the author of your article) were in possession of a *complete* set of orders and signals.

For the benefit of your readers who may not have seen the Admiralty communiqué about Admiral Sir Berkeley Milne, I will quote "that the general dispositions and measures taken by him were fully approved."

To the Hon. Editor,
The Naval Review.

Note by the Hon. Editor.—It must always be remembered that a narrative only represents the views of the writer based on the knowledge in his possession at the time, and may consequently be incomplete as an historical record. A true picture of an event can only be obtained after every aspect of it has been presented.

Some Criticisms.

March 6th, 1919.

Sir,—While the war is still fresh in our memory let us jot down what we can of its lessons and first—since it is easier to criticise than to construct—let us proceed to point out the faults of the Admiralty; a congenial task to every naval officer, however ill-equipped by training or experience to fill the rôle of a critic.

This letter is intended to provoke criticism itself and will not fail, I hope, to do so.

It is humiliating to think that the Admiralty, despite the history of hundreds of years of naval warfare in its records, set to work as if the duration of the war was only to be counted in weeks and began it with an orgy of changes.

Surely, if the Navy had been administered as "the war service" that it is during peace, only the minimum of changes should have taken place on the outbreak of war? But no, the Commander-in-Chief who had trained the fleet was superseded by a Lord of the Admiralty; the training establishments mostly ceased to exist—gunnery, torpedo and navigation schools were looked upon as unnecessary, and for those that remained any "dug-out" officer was considered good enough.

We had learnt in peace, that if depôts and training establishments were to be successful our smartest officers should be sent to them; but all experience was thrown to the winds in the mad excitement of war.

Stopping the output of gunnery and torpedo lieutenants was soon discovered to be a great mistake and closing the navigation school was also recognised as harmful. In fact, straying from the well-proven track was in all cases disastrous.

Following the Admiralty line of thought as to the duration of the war, it is humiliating to recall that in some few ships furniture was thrown overboard, cabin doors unshipped, and the standards of cleanliness and smartness, which experience had shown to be conducive to good discipline and efficiency, were allowed to deteriorate.

Dirt and discomfort were supposed in some cases to be "warlike" and for some occult reason it was thought that all the smaller aids to discipline, which were considered necessary with active service crews, could be dispensed with, when—of necessity—ships' companies became largely diluted with "hostilities."

Of course this mistake was also recognised in time.

Foreign Stations.—It is noteworthy that all the foreign stations abolished or reduced by Sir John Fisher in 1904 came into existence again. Here again the historical arrangements, which had been matured during former wars, proved correct and the new divisions of the globe, based on expediency, were found wanting.

Shipbuilding Policy.—As many naval writers had contended, Lord Fisher's policy was found to have given us a totally inadequate number of light cruisers and destroyers, but his foresight in building the battle-cruisers was amply justified by results.

The Cult of Matèriel.—Many able pens have called attention to the harmful effect of the worship of "Matèriel"; as shown by the rapid promotion of gunnery and torpedo officers.

It is interesting to note in this connection how, as the war continued, among the officers in command of fleets and squadrons the former gunnery and torpedo officers tended to drop out and others, unconnected with the cult of matèriel, took their places.

Explain it as you can, I maintain that our noble friend the horse is the finest of all trainers for leaders of men in war.

Note the following naval leaders whom stress of war has brought prominently to the front:—

Beatty, de Robeck, Tyrrwhit, Keyes, Goodenough, Halsey, Alexander-Sinclair and Cowan.

In the sister service we have Haig, Lawrence, Byng, Allenby, Gough, Cavan and many others who have graduated as cavalry officers, masters of hounds and polo players.

To the HON. EDITOR,
The NAVAL REVIEW.

THE EMDEN.

EXTRACTS from a letter from Port Sudan dated December, 1914, by an old reservist, who served in the Empress of Asia and Empress of India, auxiliary cruisers.

"The crews of these vessels were mixed, partly English and partly French from the river gunboats in China.

"The Russia took wounded and prisoners from the Emden to Colombo.

"The position of the captain of the Emden was unenviable. After 100 days at sea, many among his crew wanted to intern. He had to quell at least one mutiny and in spite of this fought so well that for half an hour it was doubtful whether he or the Sydney would win. He went on until his ship was absolutely unmanageable and unfightable. Although unwounded he was absolutely shattered by his experiences.

"The crew on the other hand behaved abominably. The officers of the Russia knew all the German ships on the China station and did all they could for them, but they were quite hopeless to do anything for, and smashed everything they could in their quarters the day before they reached port. The Russia's officers were both surprised and annoyed.

"The crew of the Sydney were very well-behaved and modest when in Colombo and got great credit for it."

THE ART OF COMMAND.

Sir,—The accompanying extract from a lecture by Lieutenant-Colonel A. Cunningham Robertson, 8th King's Own Regiment, on the "Art of Command," was taken by me from the Journal of the R.U.S.I.J. for July, 1864. As, during the course of my career I found these simple rules very useful and the principles underlying them are always existent, I am sending them with the hope that they may also be useful to many of the members of the Naval Society.

TO THE HON. EDITOR,
THE NAVAL REVIEW.

The following rules exhibit a statement in detail of the principal considerations, which an officer ought to keep continually in view in the exercise of his authority, and by reference to which he ought to accustom himself to test the propriety and expediency of every order he issues :—

Rule 1. Take care that compliance with orders shall always be attended with advantage and that disobedience and neglect shall be invariably punished.

2. Before issuing an order, consider well what means are available for ascertaining that it is strictly complied with, and make careful arrangements for the supervision of its execution.

3. Issue as few orders and impart as few restraints as possible.

4. Take care that every order issued is legal, just and useful.

5. Take care to render the reasonableness and utility of every order that is issued manifest to those who have to obey it.

6. Take care that every order is expressed in concise, simple language, free from ambiguity and so framed as to be distinct and easily understood. When an order is given verbally, the tone of the voice should be decided and free from hesitation.

7. In giving directions concerning the method of carrying out an order, take care not to impose any unnecessary labour.

8. Before issuing an order, take care that all necessary arrangements are made for facilitating its execution.

9. In issuing a new order, take care that it does not contradict or in any way impede the execution of any former uncancelled order.

10. When by a change of circumstances an order becomes superfluous or mischievous, do not permit it to gradually fall into disuse, but let it be explicitly cancelled. The same rule applies when a mistake has been made, or an order issued which is found to be improper or inexpedient.

11. So manage as never to have the laugh against you.

12. In framing regulations and orders, endeavour to adapt them to the convenience of those by whom they are to be obeyed.