

Thomas, F.P

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SUBMARINE WARFARE

DECLASSIFIED IAW DOD MEMO OF 3 MAY 1972, SUBJ:
DECLASSIFICATION OF WWII RECORDS

Naval War College
Newport, R.I.
30 September, 1937

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SUBMARINE WARFARE

1. INTRODUCTION.

The subject of this Presentation is "Submarine Warfare". Commander Bieri, in his presentations on "Operations in ^{Sea} Areas not under Command", has discussed the subject of "Trade Warfare". It is in connection with this subject that my remarks will be confined. The employment of submarines in conjunction with the Fleet, both strategically and tactically, will be presented later by Commander Burrough.

In wars of modern times many instruments of warfare have been perfected which, by their sudden successes, have threatened to revolutionize the conduct of Naval warfare. Such are the torpedo and mine which made their first major successes in the Russo-Japanese War. In the World War the submarine, using the torpedo, the mine, and the gun, was outstandingly successful in its attacks upon sea-borne trade.

2. POLITICAL FACTORS GOVERNING THE CONDUCT OF SUBMARINE WARFARE IN THE WORLD WAR.

The exploits of the German submarines against Allied trade are generally known. Through the destruction of shipping employed in carrying goods to the Allies the submarine was almost successful in bringing England to her knees. It is the opinion of many authorities that the Submarine Warfare would have been successful in subduing England had not both internal and external political pressure restricted the use of this weapon.

33-548
+ Admiral Von Tirpitz said: "Had the submarine war been conducted in accordance with the gravity of the situation Germany would not today be in ruins, to the detriment of the World."

36-804 Vice Admiral Michelson, former Commander of the German Submarine Force, in his book "The Submarine Warfare, 1914-1918", says:

"Throughout the whole war the necessity for the submarine warfare on the one hand and the efforts of the Chancellor (Bethman von Hollweg) on the other 'not to exasperate England' resulted in half measures, which continually endangered the success of the submarine warfare and finally resulted in robbing this weapon of the final decision, although there were, in fact, other contributing causes."

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This view is also expressed by foreign writers. Masters, in his book "Submarine Warfare" writes: "Had statesmen and Naval command been united in the early days they would probably have dismembered the British Empire. As it was, they came within an ace of success."

Creswell says: "The ebb and flow of the damage wrought by the enemy (submarines) was in fact chiefly due to the various protests made by the United States and the conflicting counsels and change in policy which had ensued in Germany."

The successes of the German submarines against the Grand Fleet in the early days of the war were only temporary. To be sure, the Naval authorities were quite disappointed in the results obtained. But, during these operations the submarines soon showed themselves as especially fitted for warfare on commerce. They had been successful in getting through the British blockade everywhere without difficulty and could maintain themselves at sea for surprisingly long periods. They could escape from enemy superior opposition by submerging at the right time, they could stop enemy ships or ships of neutrals carrying contraband, and sink them. Therefore they were especially fitted for attacks on the great trade routes so vitally important to England. These capabilities of the submarine were first proved in October 1914, when the British steamer Glitra was brought to by the U-17 off the coast of Norway, boarded and, after examination of her papers, sunk.

This led to efforts by the officers of the High Seas Fleet to initiate submarine commerce warfare as a counter offensive against the British "blockade". The idea was accepted by the Naval Staff but was opposed by the Chancellor on the grounds of probable unfavorable reaction by neutrals.

Finally, however, in January 1915 the Naval Staff was successful in obtaining from the Foreign Office authority for the initiation of submarine commerce warfare as a retaliation against Great Britain for alleged violation of International Law. On February 4th, the German Government announced its so-called "submarine blockade" around the British Isles, and stated that "all enemy merchant vessels found in those waters of the eighteenth instant (February 18, 1915) will be destroyed although it may not always be possible to save crews and passengers". This announcement added that "neutral vessels expose themselves to danger within this zone of war" because "of the misuse of neutral flags ordered by the British Government on January 31", and that because "of the contingencies of maritime warfare - neutral vessels (might) suffer from attacks intended to strike enemy ships".

This announcement of the German Government brought immediate protests from neutrals; the strongest protest coming from the United States Government which flatly refused to acquiesce in the German declaration or to concede to a warship any departure from the restrictions incidental to the right of visit and search. It warned the German Government that it would be held strictly accountable for any violation of neutrality against American ships, and demanded that "American citizens and their vessels will not be molested ---- otherwise than by visit and search".

The complete propriety of this protest of the United States is questioned by some present day authorities on International Law.

Borchard and Lage, in their recent book "Neutrality ~~for~~ the United States" say: "Had the United States confined itself to protesting the possible destruction of American vessels and of human beings on American vessels, its position would have been legally privileged and probably unexceptionable." They state further "By demanding that under all circumstances the right of visit and search must be exercised, the United States proposed to cripple the effective use of the submarine as a commerce destroyer."

On February 20, 1915 Germany began restricted submarine warfare on commerce in which neutral vessels were to be visited and searched in accordance with the rules of International Law.

In the meantime Great Britain had taken steps to protect her merchantmen against submarine attacks by arming them and by the use of neutral flags as a ruse de guerre. In fact before the War England had laid plans for the arming of her merchantmen against auxiliary cruisers, and after the declaration of war had advised the United States that "the arming of these merchantmen was a precautionary measure adopted solely for the purpose of defense, which under existing rules of International Law, is the right of merchant vessels when attacked." Later, further notification was received "that British merchant vessels will never be used for purposes of attack, that they will never fire unless first fired upon, and that they will never under any circumstances attack any vessel."

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The State Department conceded to the British viewpoint that these merchant ships were armed merely for defense and therefore did not acquire the character of a ship of war. Concerning this concession Professor Borchard says: "This was a fateful mistake into which the administration was led by poor advice.----- Human experience would dictate that when arms are carried ----- they are
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carried for use, and the very fact of armament would necessarily preclude visit and search and invite attack from enemy warships."

Although the American Government requested England to "restrain vessels of British nationality from the deceptive use of the flag of the United States", it conceded the validity of the occasional use of a neutral flag as a ruse de guerre and thereby defeated its whole purpose of protesting the use of neutral flags.

On February 10, 1915 the British Admiralty issued orders to its merchantships to ram submarines if escape should prove impossible. Later, on February 25, these orders were amplified by ordering merchantmen to fire on submarines at sight. This amended order did not come to the attention of the State Department until December 1915, when it was received from the American Ambassador in Berlin, who had, in turn, received it from the German Foreign Office.

Thus submarine warfare on commerce was initiated with many complications and the task of the submarine was made exceedingly difficult. This difficulty was later recognized by Secretary Lansing who, in a letter to the President in January 1916 wrote of "The impossibility of ^asubmarine communicating with an armed merchant ship without exposing itself to the gravest danger of being sunk by gunfire because of its weakness defensively, (and) the unreasonableness of requiring a submarine to run the danger of being almost certainly destroyed by giving warning to a vessel carrying an armament". This letter further stated, "The chief difficulty with the situation seems to lie in this: If some merchant vessels carry arms and others do not, how can a submarine determine this fact without exposing itself to great risk of being sunk?" But no change was made in the previous policy of the United States regarding armed merchantmen. According to Borchard,

"By that time- it was too late to effect a change. Too many interests, legitimately acquired under the protection of the September 1914 ruling, had by then solidified into a claim of vested rights."

During the spring of 1915, with only 23 submarines available for use in submarine warfare of which nine were on station at one time, the Germans continued to sink Allied shipping, but with only mediocre success, far below German expectations. In spite of orders to spare all neutral vessels, submarine warfare claimed numerous victims among neutrals. In April the famous notice of the German Embassy appeared in American newspapers, warning American citizens that vessels flying the flag of Great Britain or her Allies were liable to destruction in waters adjacent to the British Isles and that travellers on such ships were there at their own risk. On May 7 the Lusitania was sunk off the southern coast of Ireland with the loss of nearly 1200 persons. ³⁸⁻¹⁷¹

In describing this incident Frothingham in his "Naval History of the World War" says: "This appalling loss of life, with the destruction of women and innocent children made a most profound impression all over the World. All other discussions and irritations as to the situation faded into insignificance in comparison with this tragedy. Especially was this the case in regard to the United States, as about one hundred of the victims had been Americans, including many women and children.- This act had concentrated public opinion in condemnation of Germany. It was another example of the fatal error of arousing moral forces and aligning them against Germany."

According to Admiral Bauer, Commander of the German Submarine Flotillas during the World War: "The effect of this sinking was to furnish the basis for the position of many nations against the

submarine war. The sinking of the Lusitania must be considered as a very fortunate occurrence for the Allies from the standpoint of the conduct of the war, since, without this event, it probably would not have been possible to obtain such general condemnation of the submarine". Admiral Bauer continues, "The complete one-sidedness of the use of this case becomes clear from the fact that almost at the exact time of the sinking of the Lusitania the Turkish passenger ship Stambul, carrying 700 passengers was sunk in the Sea of Marmora by a British submarine without the World even taking notice."

The sinking of the Lusitania brought a sharp protest from the American Government, demanding a disavowal of the sinking and reparations for the loss of American lives and that measure be taken to prevent the recurrence of such incidents in the future. In several exchanges of notes the United States reiterated its stand that American citizens had a right to travel "on merchant ships of belligerent nationality" without molestation except after visit and search, and stated that it was "contending for nothing less high and sacred than the rights of humanity". Borchard contends that "The position taken by the United States on the Lusitania case ultimately determined American intervention, the outcome of the war and the fate of Europe". *Blank*

Without acknowledging its change of policy to neutral countries, Germany had in June 1915, following the American protest, instructed its submarines to avoid attacks on large passenger steamers. With the sinking of the Arabic in July, further restrictions were placed on the activities of the submarines. In September the German Ambassador informed the State Department that passenger steamers would not be sunk without warning and without providing for the safety of the lives of non-combatants, providing the vessels did not resist or attempt to escape.

However, in Germany the dispute between the civil and naval authorities continued unabated, the former claiming that American intervention must be avoided, the latter that restraints on the submarines were preventing them from ending the war. The German naval authorities were convinced that the beginning of 1916 was the right time to renew submarine warfare, as their submarine force had been greatly expanded both in numbers and efficiency. In January 1916 they were successful in persuading the German Government to announce that armed merchantmen would be treated as warships and in February submarine warfare against these ships was begun.

However, the American protest over the sinking of the French steamer, Sussex, in March 1916, brought to an end, for the time being, these activities. The German government still reluctant to risk drawing America into the war, made a new and far-reaching commitment to restrain the use of the submarine as a commerce destroyer. They agreed to conduct submarine warfare in accordance with the rules of International Law regarding visit and search and sinking of vessels, and that merchant vessels would not be sunk without warning, provided the United States would obtain from Great Britain a respect for "the rules of International Law universally recognized before the War". These conditions the United States refused to accept, but during the remainder of 1916 Germany practically suspended submarine warfare on commerce in the hopes that an early peace might be consummated.

Then, in January 1917, Germany, unsuccessful in bringing the belligerents to a discussion of peace, and convinced of the ability of her submarines to bring Great Britain to her knees before the resources of the United States could be mobilized and brought to England's aid, decided to disregard neutral opinion and committed itself to unrestricted submarine warfare.

This commitment forced the hand of the United States. Its demands either had to be backed up or withdrawn. There was really no course other than to sever diplomatic relations. On April 2, 1917 President Wilson appeared before Congress and demanded "recognition of a state of war which the acts of Germany had thrust upon the United States". He rejected the German plea of retaliation and claimed that submarines were "impossible to employ as it (Germany) is employing them without throwing to the winds all scruples of humanity or of respect for the understandings that were supposed to underlie the intercourse of the World. --- The present German submarine warfare against commerce is warfare against mankind - a war against all nations."

Thus the United States entered the war against Germany as a protest against its employment of the submarine as a commerce destroyer, which, it was contended, was contrary to International Law.

The German Government had taken the stand that the use of the submarine against commerce, both enemy and neutral, was legal, in that it was a measure of reprisal against the serious violations of naval warfare on the part of the Allies - violations to which the neutrals had acquiesced. "Nevertheless", as Admiral Bauer says, "the argument advanced to justify the German measures as reprisals did not prevent twelve nations from declaring war upon Germany as an answer to the unrestricted submarine war, and four more nations from severing diplomatic relations."

3. THE SUBMARINE AND INTERNATIONAL LAW.

The submarine first came up for discussion before an International Tribunal at the Hague Conference of 1899, when the delegates of Great Britain, Germany, Russia, Japan, Italy and Denmark expressed a willingness to ban submarines, provided all the nations

concluded. However, France, championing the cause of the smaller powers, opposed their abolition on the grounds that they were a protection of the weak. She has continued this opposition ever since.

It is interesting to note France's espousal of the torpedo and the submarine, probably as her answer to the British Navy and merchant marine, in an utterance of Admiral Aube, just before he assumed the office of French Minister of Marine in 1886:

"To-morrow war breaks out. An autonomous torpedo boat - two officers, twelve crew - has encountered one of those merchant ships, carrier of a cargo more valuable than the most luxurious Spanish galleon. The crew and passengers of this vessel number several hundred. Is the torpedo-boat going to make known its presence to the Master of the merchantman, to hail him, (to declare) that he can be sunk and that as a result he will be made prisoner - himself, his crew and his passengers - in short, that he is platonically under the control of a prize crew and that, as such, he must betake himself to the nearest French port? To such a declaration --- the captain of the steamship would reply with well directed cannon fire which would send the torpedo-boat, its crew and its chivalrous captain to the bottom, then, tranquilly, the ship would pursue its briefly interrupted voyage. Rather, the torpedo-boat will follow, invisibly and at a distance, the steamer it has encountered; after nightfall, silently and easily, it will send to the depths steamship, cargo, crew and passengers. With a clear conscience and a feeling of great satisfaction, the captain of the torpedo-boat will then continue his cruise."

Following the World War there was a great public demand, nurtured by Great Britain and seconded by the United States, for the banishment of the submarine from the seas forever. By the Treaty of Versailles, Germany was obliged to surrender all of her submarines to her enemies and prohibited from building new ones. At

the Washington Conference in 1921 England renewed her efforts to abolish the submarine and was again supported by the United States. Here, again France, supported by Japan and Italy, refused to be swayed by the persuasive arguments of the British delegates. The conferees did, however, agree to limit the functions of the submarine to the rules of visit and search. These rules never became effective, as they were made contingent upon unanimous ratification, and France has never ratified them.

Again at the London Naval Conference in 1930 a new attempt was made to outlaw the submarine as a commerce destroyer. The Chairman of the American Delegation at the plenary session of the conference on February 11 said: "The essential objection to the submarine is that it is a weapon particularly susceptible of use against merchant ships in a way that violates alike the laws of war and the dictates of humanity. The use made of the submarine (in the World War) revolted the conscience of the World and the threat of its unrestricted use against merchant ships was what finally determined the entry of my country into the conflict. In the light of our experience it seems clear that in any future war those who employ the submarine will be under strong temptation, perhaps irresistible temptation, to use it in the way that is most effective for the immediate purpose, regardless of consequences. These considerations convince us that technical arguments should be set aside in order that the submarine may henceforth be abolished."

Once again France opposed this attempt to outlaw the submarine and countered with a proposition, which was accepted by the delegates of the five powers, requiring submarines to conform to the rules governing surface vessels. This proposition is incorporated in the London Naval Treaty of 1930. The rules for the conduct of

submarines as regards merchant vessels is found in Part IV, Article 22 of this treaty, which reads:

"The following are accepted as established rules of International Law:

"(1) In their action with regard to merchant ships, submarines must conform to the Rules of International Law to which surface vessels are subject.

"(2) In particular, except in the case of persistent refusal to stop on being duly summoned, or of active resistance to visit or search, a warship, whether surface vessel or submarine, may not sink or render incapable of navigation a merchant vessel without having first placed passengers, crew and ship's papers in a place of safety. For this purpose the ship's boats are not regarded as a place of safety unless the safety of the passengers and crew is assured, in the existing sea and weather conditions, by the proximity of land or the presence of another vessel which is in a position to take them aboard.

"The High Contracting Parties invite all other powers to express their assent to the above rules."

These rules were adopted without time limit and have been ratified by the five signatory powers, Great Britain, United States, Japan, Italy and France. Other nations who have assented to adhere to these rules are: Germany, Russia, Sweden, and ten smaller nations.

Commander Hazlett in an article in the Naval Institute Proceedings of December 1936 states that these limitations on the use of submarines reduce their effectiveness against shipping to "almost nil". Professor Borchard considers it highly doubtful whether the London rules ever constituted International Law.

"However", he says, "their acceptance by some of the principal X maritime powers may lead to that result. But even here, it is well to be remembered that treaties which do not reflect the mores, such as the Kellogg Pact, are likely to become dead letters."

"Whether these rules, although having both moral and legal value, will ever be enforced even among the signatory Powers is open to question. Informed Naval opinion seems to doubt it." The disregard of treaty obligations and the rules of International Law, - to say nothing of the dictates of humanity - in the undeclared war which is now being waged in the Far East seems to bear out the justification of such opinions.

As Hazlett says: "International Law is indefinite; it is not codified, and except for those parts of it which have been established by general good practice, it is not generally acceded to."

When dealing with the defenses of Britain in the House of Commons on July 30, 1934, Stanley Baldwin said: "No naval authority would guarantee to you that in the event of war a submarine of the enemy will not sink one of your ships, or will not sink one of your food ships. No naval authority will assure you immunity for all your food ships, however many cruisers you have got. Do you therefore say: 'We will do without cruisers altogether, because there is no defense?' Do you say: 'We will do without attempting to destroy the submarine, because the submarine will always get through?' Of course you do not."

Admiral Bauer says: "In spite of all difficulties the submarine will continue to be used against commerce in future wars. The reason for this is that the sea routes and the commerce which passes over them are the major objective of Naval War. A weapon which is capable of disputing control of the seas without previously engaging in combat with the - at least locally - superior enemy

fleet will, without doubt be so used, the more so since no other weapon is able to take the place of the submarine for this task."

The strength of these rules will be severely tested if nations insist upon arming merchantmen. What will be the status of these armed vessels? Will they be considered, as England contended in the World War, merely armed for defensive purposes, in which contention the United States acquiesced, or will they be treated as vessels of war and sunk on sight?

Regarding this, the Naval War College International Law Book of 1934 states: "The rules as embodied in Article 22 of the London Naval Treaty, 1930, practically restricts the use of the submarine to that of a surface cruiser as regards vessels of commerce, while leaving the submarine unrestricted as regards vessels of war, making it once more essential that vessels of war and vessels of commerce be clearly distinguished and distinguishable. It cannot easily be presumed that armed merchant vessels could be tolerated while submarines should be required to conform to Article 22."

Just how the employment of submarines will be effected by this state of affairs is a question for the future. Yet we must be prepared to counter any measures which our enemies may take against us and study all measures which we may use to insure the preservation of the nation regardless of present treaty obligations. Therefore we must know fully the capabilities of submarines and study carefully all possible ways in which they may be employed in Trade Warfare.

4. THE INFLUENCE OF GEOGRAPHY ON SUBMARINE WARFARE.

The only historical data of any significance available for the appraisal of this weapon are to be found in the operations of the submarines during the World War. However, we must not use this data as our whole basis for determining the employment of submarines in trade warfare in future wars, as the circumstances which existed in the World War were special and may never occur again, particularly in a war in which we may become involved.

To fully understand this, let us examine the influence of geography upon submarine warfare. During the World War the Central Powers were entirely cut off from all of the important trade routes of the World by geographical position. Their cruisers, employed in commerce raiding, had all been either destroyed or driven from the seas, as there were no available bases on the high seas from which they could operate. The submarine, evidently the weapon of the weaker party, was the only means by which Germany could destroy the Allies' seaborne commerce.

38-180
38-02 A+B
England, on the other hand, being an island nation and therefore directly connected by trade routes to all parts of the world, and with a powerful Navy that had numerous bases conveniently located around the globe, was able to stop all German trade outside the Baltic and to place a "blockade" against all trade destined for Germany from overseas.

38-01
Yet England's geographical position as an insular nation, dependent upon ocean commerce for raw materials and foodstuff, made her exceedingly vulnerable to submarine trade warfare. It is very probable that the knowledge of this vulnerability has greatly influenced Great Britain in her efforts to have the submarine abolished. It is now generally conceded that Britain's action in the Ethiopian crisis was greatly tempered by Italy's dominating position in the Mediterranean, where, with her modern submarine force and an effective air arm in conjunction with a swift and powerful surface fleet, she can control the flow of

shipping through these narrow waters.

France, sitting at the threshold of the British Isles, flanking the vital trade routes to England, and with Italy at her back door in the Mediterranean, has consistently opposed the abolition of the submarine. Scantly supplied with capital ships and realizing the value of this weapon in a war on commerce, she has built a large submarine force, contending that the submarine is "an essential means of preserving her independence which she cannot give up". As Hazlett says: "To France, fronting as she does on two seas, the submarine is much less of a threat than a promise."

38-02A+B
Japan's geographical position is closely analogous to Britain's, because of her insular status. However, outside of Russia, the potential enemies of Japan in Naval warfare are many thousands of miles removed. In this connection persistent rumours have recently been reported by the Press of Russia's activities in developing a submarine force in the Pacific. 27-152+37-15
It is also known that Holland maintains a large number of submarines in the East Indies, the present source of about one half of Japan's fuel supply for her fleet. Most of the trade routes to Japan from the south and west pass through or within striking distance of the Dutch East Indies.

Yet, contrary to Britain's efforts to abolish the submarine, Japan has ably supported France in defending this weapon and has built up a powerful submarine fleet. Although it is probable that her main purpose is to employ her submarines against her enemy's fleet, no doubt she will desire a powerful submarine flotilla to break the necessarily long lines of maritime communications of any potential enemy and to prey upon its commerce wherever possible. The Pacific Mandates, with many potential bases for submarines cut our lines of communication to the Philippines and are within striking distance of the trade routes between the West coast of the United States and Australia.

38-02A+B
The situation of the United States is completely different from that of other Powers. We are separated from possible enemies

by the Atlantic and Pacific Oceans. With our long coast lines on these two oceans and the Gulf of Mexico and with many fine harbors and ports with rail and motor transport connections to the interior, we are undoubtedly more immune to the consequences of a submarine blockade than any other maritime power.

Attack upon seaborne trade along our coasts could be undertaken effectively only after the establishment of strong bases within striking distances of the vital trade routes. Great Britain is the only Power who now possesses potential bases from which extensive submarine operations against our trade could be conducted, with Canada and Bermuda flanking our Atlantic coast, with her West Indies possessions cutting our trade routes to the Gulf and the Panama Canal, and with Vancouver on the Pacific coast. However, in order to maintain these bases Great Britain would virtually have to gain and maintain control of the Western Atlantic with her Fleet in order to protect the lines of communication to these bases; in which case our trade in the Atlantic would be effectively cut off without the use of the submarine. Furthermore, economically, the United States is almost completely independent of foreign commerce for war making purposes.

Thus it appears certain that the employment of submarines our trade cannot be made the major effort in a war against against/the United States. However, this does not mean that our seaborne commerce will be entirely free of attacks by submarines, as sporadic raids along our coasts and attacks on the high seas are still possible.

The great distances that separate the United States from European and Asiatic Powers and thus protect us from the damaging effects of submarine warfare, at the same time reduce the effectiveness of our submarines, should we desire to use them against an enemy's trade. The Philippine Islands, flanking the trade routes between Japan and Southern Asia and Europe and within striking distance of the Japanese Islands, ³⁷⁻¹⁵² are suitably located for the employment of submarines against Japanese trade. However, their great

distance from the United States and their present state of defense render~~x~~ them incapable of being used as a base of operations for our submarines. *Blank.*

5. EMPLOYMENT OF SUBMARINES IN TRADE WARFARE.

Just how the submarine will be employed in commerce warfare of the future is a question which cannot be definitely answered, as the nature of the war, the strength and geographical positions of the opposing Powers, and the regard - or rather the lack of regard - for International Law will probably be the deciding factors in determining the effective use of the submarine. However, it is certain that the submarine will play a definite part in trade warfare, either independently or in conjunction with other naval forces. By its nature, the submarine, which can operate without the support required to protect surface vessels and thus can penetrate areas denied to surface craft, is particularly fitted for operations in areas under control of the enemy.

It is not likely, however, that the submarine will ever again play the leading role which it held in the World War. The strategic conditions of that war will probably never be repeated and, particularly, are very unlikely to apply to any war in which the United States may become involved. We have seen how the geographical positions of both Germany and England and the superiority of the English Fleet caused the submarine to become the effective weapon against England's trade. Another factor which contributed to the success of the submarine, but which will not be repeated in a future war, was the element of surprise which rendered difficult for the enemy the proper estimation of the new weapon and preparations for combatting it.

Submarines can be used in commerce warfare either in the service of information or for attack, and for laying mines off enemy ports. If the agreements of the London Naval Treaty are respected they will generally operate in conjunction with surface craft and

their tasks will be limited mostly to the service of information, attacks upon convoys, if used by the enemy, and for laying mines. Also, under favorable circumstances they may be able to exercise the right of visit and search on unarmed merchant ships.

It is here that the difficulties of the submarine begin. Nations at war will use every means possible to protect their trade and to destroy the submarine. It appears likely that belligerent merchantmen will be armed, neutral flags will be used, Q-ships may be employed for a time, patrol vessels and aircraft will guard the focal points and important shipping routes, and convoys may be used. It will be difficult for the submarine to distinguish between armed and unarmed ships or between enemy and neutral, and, at the same time, protect itself from destruction.

Lieutenant Hubbard in his article, "The Future Use of Submarines", has ventured to predict the outcome of such a situation, when he says: "It is not hard to hazard a guess, under the present laws, as to what may happen in the next war. Submarines will be used ----- against enemy merchantmen whose nationality is fairly certain. This commercial warfare will be carried on as far as is possible with regard to International Law; that is, visit and search will be attempted, the crews removed from the prize (but to where, is the riddle) and then the ship will be sunk. This practice will continue for a time until a neutral steamer is inadvertently sunk, or submarines have been destroyed by the armed enemy steamers. The policy of the submarine warfare will thereupon have to be revised. Either commerce ^{warfare} will have to be discontinued owing to the protest of neutrals and the sinking of submarines which exposed themselves, or else an unrestricted submarine warfare must be launched, sinking all vessels indiscriminately who enter the 'War Zone'. The German decided for the latter course. In the future the policy will be decided upon after taking into consideration the exigencies of the case: (1) Can unrestricted

warfare on the enemy commerce do enough damage to decisively affect the outcome of the conflict? (2) What will be the resultant course of the neutrals?"

Commerce warfare may be divided into two distinct types. The first type is the blockade of enemy ports, where all trade, both enemy and neutral, is denied entry or departure, after due notice has been given of the establishment of such a blockade. The second type is cruiser warfare which consists of preying upon enemy trade and seizing his merchantmen and their cargoes upon the high seas and bringing them, if possible, into one's own harbors.

The advent of torpedoes, mines and aerial bombs has made the positions of surface vessels in a close blockade untenable. In the World War, owing to the threat of the mine and the torpedo the British were forced to establish what was in effect a "distant blockade", - although careful to avoid calling it a blockade, - far from the German coast line. Because of Germany's geographical position, with her only outlet to the Atlantic Ocean through the North Sea, England was able to maintain this "blockade" with surface vessels; but then, only by restricting the flow of trade to the neutrals of Northern Europe, a procedure which was protested by the Neutrals.

The submarine is the only weapon which is capable of operating and maintaining its position in areas near the enemy coast, and, "consequently must undertake all tasks which are there to be accomplished, even those tasks for which it is less suited than other types of vessels." Such was the German contention for using the submarine to establish a blockade of the British Isles.

Admiral Bauer, in discussing "submarine blockades", says:

"In a blockade full use is made of all means which serve the ends of the war, that is the submarine will be used as a true submarine. Naturally this does not mean that when a blockade is established each ship proceeding through the blockaded area must at every moment expect to be sunk by a torpedo. If only for the sake

of conserving his supply of torpedoes the submarine commander will, whenever possible, make use of his other weapons, such as ³⁸⁻¹⁶¹ gunfire and explosive bombs."

He states further:

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"A blockade of this type finds its inherent justification in the fact that seaborne commerce proceeding to the enemy during war is actually not neutral, but instead supports the enemy. And this the more so in a war where a belligerent has issued an express notification that exports to his enemy are unneutral and are forbidden. The neutral who in spite of this proceeds to the blockaded land is guided by the same motives as all blockade-runners, the hope of rich reward -and must put up with the attendant risks."

Whether these views will be accepted as a justification for a submarine blockade in a future war is questionable. Borchard says: "Whether 'war zones' can be tolerated, thus formally changing the rules of close blockade, or whether legal blockade of countries having submarines is practicable, are still debatable questions; as yet war zones cannot be said to have the authority of law and neutrals cannot be obliged to surrender their freedom to use the high seas because of belligerent whim."

Yet, it is possible that a blockade with unrestricted submarine warfare may be seen in a future war if the situation is such that a blockade of the enemy is an essential factor, and if this blockade is carried through despite the protests of neutrals.

In cases where a blockade with submarines is determined upon, extensive preparations on the part of the blockading Power will be necessary; for instance, the construction of ^a large number of submarines, of which there can never be enough, and the fitting out of conveniently located bases. Adequate bases, located within striking distances of the enemy coast, ³⁸⁻¹⁵⁸ yet where they can be defended against enemy surface forces and aircraft, are essential for the energetic prosecution of submarine war. Although modern submarines are better fitted for more extended periods of opera-

tions at sea than most of the World War submarines, their operating periods are limited and time must be spent in going to and returning from their operating areas. The importance of nearby bases will be better understood from the statement of Michelson concerning the Flanders bases in the World War:

"These lay, so to speak, at England's front door (65 miles from Dover) and resulted in a considerable saving in time and energy for all operations in the Channel, the coast of France, and the south and west coasts of England. The saving in mileage, as compared with the distances from Wilhelmshaven meant about three hundred miles in going and returning from these operation areas ---- i.e. an average saving of two and one half days on all distant operations - which meant a considerable increase in the effectiveness of the weapon. On the other hand these bases lay so close to the enemy front and the English coast, that they were exposed to severe damage from ashore and afloat." 38-159

The employment of submarines in cruiser warfare will probably be different from that in a blockade. Unless the belligerent is denied practically all access to the sea, cruiser warfare will generally be conducted on the high seas by cruisers, auxiliary cruisers and submarines; the submarines being used mostly for observation off neutral and enemy ports, at focal points and along the trade routes to inform the cruisers of the passage of shipping/through these areas, and for attack under favorable circumstances. Here again the London Naval Treaty limits the employment of the submarine. Granted that the submarine may be able to exercise the right of visit and search to establish the enemy character of the merchantman or of her cargo, it cannot sink the vessel without abandoning the crew in the ships boats. If this is to be avoided it will be necessary for the submarine to operate with a suitable tender for taking the crew of the merchant ship on board, or the operations must be limited to areas in close proximity of the land and sinkings restricted to favorable weather conditions. 38-173 38-167

There are many instances in the World War where submarines have visited and examined the ship's papers before sinking the merchantman. The crews were placed in the ship's boats and succeeded in reaching land safely, sometimes being towed within sight of land by the submarine, or were rescued by passing ships. An interesting illustration of this is found in the cruise of the U-53, ³⁸⁻¹⁷⁵ Captain ³⁸⁻¹⁷⁴ Rose, to Newport in the autumn of 1916, when, off Nantucket Lightship, he visited and sank seven ships, time being given for the crews and passengers to take to the boats, who were later taken on board American destroyers. ³³⁻⁶⁹⁹

This type of warfare was not restricted entirely to the German submarines as the British submarines carried on commerce warfare in the Baltic and the Sea of Mamora.

The type of submarine which should be employed in cruiser warfare is the large submarine cruiser, which has a long cruising radius, high surface speed, and is capable of maintaining itself at sea for extended periods. In addition to its torpedoes it carries a gun armament of one or two four to six inch caliber guns for use against merchantmen who refuse to stop when summoned, or actively resist visit and search. ^{38-160 32-18}
^{32-35 32-17}

Our large "Fleet" submarines have cruising radii of twelve to nearly twenty-eight thousand miles, and can carry provisions and supplies which are sufficient to maintain them at sea for periods up to 75 to 90 days. But, owing to the effect upon materiel during such extended periods of operations, and especially to the reduction of efficiency of the personnel, it is doubtful whether the operating period should be extended beyond 45 to 60 days, particularly, if the operations are to be conducted in tropical waters. However, Michelson says that the German "submarine cruisers were frequently three months at sea without any noticeable detriment to the health of the crew." ^{Blank}

The cruise of the U-53 extended over a period of 42 days, and yet it was able to operate in the trade routes off the American

coast for only one day. Thus if cruiser warfare is to be conducted by submarines alone at great distances from their bases no effective results can be obtained without a very large number of submarine cruisers.

According to Bauer: "In the World War, undertakings of this sort, in which much time was required for going to and returning from the scene of action, achieved no results at all comparable with those obtained by well handled submarine operations close to the enemy coast. In other war situations the distance between belligerents may be so great that they can be bridged only by submarine cruisers. Under such circumstances, however, one should not expect a number of sinkings in anyway comparable with those achieved against England during the World War."

6. PROTECTION OF TRADE AGAINST SUBMARINES.

After England had succeeded in clearing the ocean of the German cruisers in the early months of the War, Allied shipping felt free to sail the seas unmolested, with the superior Grand Fleet in full command of the surface of the sea. But, before they had finished congratulating themselves on clearing the outer seas, a new and more serious menace was arising, one which found them totally unprepared to combat, and the real danger of which was not at first recognized. The submarine had robbed England's proud Fleet of its command of the seas.

Admiral Jellicoe, in a memorandum to the First Lord of the Admiralty, on April 27th, 1917, wrote:

"The real fact of the matter is this. We are carrying on the war at the present time as if we had absolute command of the sea, whereas we have not such command or anything approaching it. It is quite true that we are masters of the situation as far as surface ships are concerned, but it must be realized - and realized at once - that this will be quite useless if the enemy's submarines paralyze, as they do now, our lines of communication".

The submarine menace presents a grave problem which can be combatted only by a large organization, equipped with many types of vessels and weapons and provided with the services of a large personnel force. Although, as previously stated, it is believed that the submarine will never again reach the importance that it attained in the World War, it is a threat that is ever present in wartime and shipping must be constantly protected against this threat. Furthermore, no nation is able to hold in readiness, during peace time, requisite measures of defense to make impossible or even to render difficult the operations of enemy submarines against commerce. Although plans may be prepared in peace time, and the organization set down on paper, considerable time must be taken in assembling material and training personnel before protective measures can be made effective.

Admiral Jellicoe said: "There were only three ways of dealing with the submarine menace. The first, naturally, was to prevent the vessels from putting to sea; the second was to sink them after they were at sea; and the third was to protect the merchant ships from their attacks."

These naturally fall into offensive and defensive measures.

The defensive measures, or more definitely protective measures, may be divided into internal and external actions. The internal actions, or those which the ship itself may take, are an alert and adequate lookout, quick maneuvering to avoid torpedoes, high speed, zigzagging and smoke screens. Then, of course, if the merchantman is armed, ³⁸⁻¹⁷⁹ he will use his guns against a submarine on the surface. A means of evading submarines is by avoiding the usual trade routes, focal points and restricted waters whenever possible. For protection against mines, ^{38-165 38-168} the ship may be equipped with paravanes.

External actions are those taken by forces assigned to the protection of trade. These consist of patrols by ³⁸⁻¹⁶⁴ surface vessels and aircraft, ^{38-163 38-162} escorts, convoys, minefields, ³⁸⁻¹⁶⁶ nets and ³⁸⁻¹⁷⁶ minesweeping.

38-172 32-09

It is believed that patrolling aircraft will be the greatest deterrent to effective submarine operations in the future; not so much from destruction by aerial bombs, as from detection. To avoid detection the submarine must remain submerged during the daylight hours, thereby limiting its range of visibility and reducing its radius of action. If the submarine does not submerge until after it is sighted by the aircraft, its position can be reported to the merchantman, who will then avoid the area in which the submarine is submerged.

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Naturally the most effective protection to a nation's trade is to prevent the enemy submarines from putting to sea. This requires offensive action against enemy submarine bases. These measures may require large forces from the Fleet and probably the entire Fleet. Such measures are: denial of potential bases to the enemy, capture or destruction of organized bases or blocking the passages leading to the bases with mines or by placing obstructions in the channels.

The blocking of passages to the German bases was not effective during the World War. Bauer says: "Despite the large number of mines planted before submarine bases, their use did not result in the looked-for success. It is always possible to keep the passages for departing and returning submarines free of mines and to safeguard them during passage by means of a convoy, if sufficient naval forces are available."

Although the British succeeded in sinking block ships in the Zeebrugge Canal in April 1918, the canal was not closed to navigation, since, within two days of the attack, a German submarine came past the block ships.

The other type of offensive measures is to prevent the submarines from reaching their operating areas by blocking the routes to these areas or by destroying them at sea. The mine is the most effective instrument for this purpose, provided suitable locations for laying minefields along the routes travelled by the submarines

38-177

are available. During the World War such barriers were laid in the English Channel, across the North Sea, and in the Straits of Otranto; of these, the most effective was the Channel minefield.

To this type of offensive should be added the Q-ships or mystery ships which were quite effective when first employed by the British, but became less effective as the Germans became more cautious.

The submarine can also be used as an offensive weapon in defense of trade. It proved to be effective against the German submarine and was accredited with 19 sinkings. They should also prove valuable for observation and attack at focal points and in restricted waters of enemy raiding forces passing through these areas. They would be particularly valuable in an area such as the West Indies, where they could work in conjunction with shore based aircraft for observing the entrances to the Caribbean for the passage of hostile men-of-war and then informing the air station which can take offensive action.

According to Admiral Jellicoe the order of merit of the offensive measures taken against the German submarines in 1917 and 1918, based on known submarine destructions, was (1) Attacks by destroyers, sloops and fast patrol vessels; (2) By mines; (3) By trawlers and slower patrol vessels; (4) by submarines; (5) by aircraft; and (6) by Q-ships.

7. EFFECTS OF SUBMARINE WARFARE ON THE CONDUCT OF WAR.

In conclusion, what are the effects of submarine warfare on the conduct of war? In the World War the destruction of the Allied shipping became the decisive issue. Contrary to the doctrine preached before the war, the war against commerce was suddenly transformed from a minor operation to the major effort. The weapon with which this major effort was prosecuted was the submarine. Naval warfare had reached a turning point of the greatest strategical significance. All other purposes of the naval warfare, all other policies, were

subordinated to the prosecution of submarine warfare, and it was employed with the full consciousness of its aim, regardless of others.

The protests of neutrals which were, at first, influential in limiting the effective use of the submarine, were eventually disregarded.

According to Admiral Scheer the High Seas Fleet's most important task was to place all its strength at the disposal of the submarines. The battleships, together with the cruisers, the torpedo boats and, especially, the minesweepers, assisted in overcoming the Allies' offensive actions. Their efforts were primarily directed against the English minefields in the North Sea, in convoying the submarines through these areas, and in supporting the minesweepers. In addition, the Fleet was called upon to supply almost all of the personnel required for the newly commissioned boats.

On shore, large forces were employed in the construction of new submarines, in the manufacture of spare parts, and in the repair and upkeep of the operating boats. Efforts were even made to obtain the services of technical experts and skilled workmen from the Army, but without success.

On the other hand, even greater efforts were exerted by the Allies in endeavoring to reduce the disastrous effects of submarine warfare on their commerce. During the War the German submarines succeeded in sinking more than five thousand ships, totally nearly 19 million tons. As a consequence of the lack of freight spaces ~~the carriage of~~ Australian wool and wheat was eventually paralyzed and England's cotton industry was ruined.

To counter the submarine and its devastating effects the Allies were forced to mobilize practically all of the world's merchant shipping and organize it under a convoy system. The ship building industry was extended beyond its capacity in the efforts to replace sunken ships. Even the rationing of the population of the Allied nations became necessary.

To protect shipping and to destroy the submarine the Navy employed thousands of small vessels for convoy, patrol, escort, minesweeping, minelaying and attack upon German submarine bases. All of these vessels were dependent upon the Grand Fleet for their protection and existence, just as the German submarines were to a certain extent dependent upon the High Seas Fleet for the success of their operations.

According to Groos there were 407,000 men serving in the British Navy at the end of the War; of this number, according to this estimate, at least 200,000 of these men were engaged in defense against mines and submarines. The conclusions of an estimate made in 1918 of the manpower engaged in the submarine warfare by each side at the beginning of that year showed that Germany was employing 120,000 men as crews, reserves and for service of supply for the submarines and the supporting surface vessels. In England 770,000 men were employed for submarine defense and in constructing new vessels as replacements for those that had been sunk.

The submarine may never again exert such far-reaching effects on the conduct of war. However, even in limited operations, where it is used merely to produce military or economic diversions, the submarine will have definite effects on the conduct of the war. It may be necessary to seize suitable harbors for the establishment of submarine bases, or, at least, to maintain and defend those bases which are under control of the belligerent using the submarines. Lines of communication must be kept open to these bases, and the movements of the submarines to and from its bases will have to be protected by surface vessels and aircraft.

On the other hand, shipping must be protected both by offensive and defensive measures. If the submarine is successful in its war on commerce, the enemy may be forced to seek battle under unfavorable circumstances in order to disrupt the lines of communication to the submarine bases. Even the capture of these bases may become a matter of first importance.

Thus submarine warfare on commerce is extensively and inextricably connected with other military considerations and is affected by numerous problems of internal politics, foreign relations, International Law and economics. Only conjectures can be made of the probable employment of the submarine against commerce in future wars, but one thing appears certain, and that is: The submarine as a commerce destroyer - witness the activities in the Mediterranean - is still a very live issue.

SUBMARINE WARFARE.

TITLE OF THE PRESENTATION

Given by **Comdr. F. P. Thomas.**

Date **30 September, 1937.**

LEFT SCREEN (FACING STAGE)

RIGHT SCREEN (FACING STAGE)

Box No.	FILE No.	TITLE OF SLIDE	Box No.	FILE No.	TITLE OF SLIDE
✓ 1	B33-548	Von Tirpitz	✓ 2	B36-804	Michelson
✓ 3	B33-616	Blank			Blank
✓ 4	B38-171	The Lusitania.			Blank
		Blank	5	B39-177	Blank
✓ 6	B38-180	Central Powers	7	BB38-998	Blank
✓ 8	B38-02B	Naval Bases.	✓ 9	B38-02A	Naval Bases.
✓ 10	B38-01	British Isles			Blank
✓ 10	B38-01	" "	11	B38-53	Mediterranean
✓ 8	B38-02B	Naval Bases	✓ 9	B38-02 A	Naval Bases.
✓ 12	B37-152	Western Pacific	✓ 13	B37-15	East Indies & Mandates
✓ 8	B38-02B	Naval Bases	✓ 6	B38-02A	Naval Bases
✓ 12	B37-152	Western Pacific			Blank
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✓ 14	B32-19	Coastal Submarine			Blank
✓ 13	B38-157	Sub. sinking a ship with a torpedo.			Blank
✓ 16	B38-161	" " " " " gunfire.			Blank
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✓ 17	B38-158	Sub. shelters at Bruges	10	B38-01	Blank
✓ 18	B38-159	Sub. in dock damaged by air attack.			Blank
✓ 19	B38-173	Open boats	✓ 17	B38-167	Overturned boat.
✓ 21	B38-175	Sub. taken a boat in tow.			Blank
✓ 22	B33-699	Crew of U-53	✓ 23	B38-174	Captain Rose.
✓ 24	B38-160	German Sub Cruiser.	✓ 25	B32-18	British Cruiser Type
✓ 26	B32-35	Japanese Sub.	✓ 27	B32-17	U. S. Large Sub.
		Blank			Blank
✓ 28	B38-179	Gun Battle between sub. and merchant ship.			Blank
✓ 29	B38-165	Streaming Paravane	✓ 30	B38-168	Ship steaming with par
✓ 31	B38-164	Anti-sub Patrol Surface and air.			Blank
			✓ 32	B38-163	Anti-sub over convoy

