

THE VICTORY AT SEA

By ADMIRAL WILLIAM SOWDEN SIMS



WHAT THE DEPTH CHARGE ACCOMPLISHED

Innocent-Looking Missile That Wrought Havoc. "Depth Charge Nerves" Dreaded by U-Boat Crews.—How the Destroyers Hunted the Submarines.—Weddingen's Disastrous Attempt to Destroy the Neptune.

If a dozen depth charges were dropped one after another, the effect upon the men in the hunted vessel was particularly disconcerting. In the course of the war several of our own submarines were depth charged by our own destroyers and from our crews we obtained life-like descriptions of the resultant sensations. It was found that men who had passed through such an ordeal were practically useless for several days, and that sometimes they were rendered permanently unfit for service.

"Depth Charge Nerves."

The state of nerves which followed such an experience was not unlike that new war psychosis known as shell shock. One of our officers who had had such an adventure told me that the explosion of a single depth charge under the water might be compared to the concussion produced by the simultaneous firing of all the 14-inch guns of a battleship. One can only imagine what the concussion must have been when produced by ten or twenty depth charges in succession. Whether or not the submarine was destroyed or seriously injured a depth-charged crew became extremely cautious in the future about getting anywhere in the neighborhood of a destroyer; and, among the several influences which ultimately disorganized the morale of the German U-boat service, these contacts with depth charges were doubtless most important. The hardest under-water sailor did not care to go through such frightful moments a second time.

This statement makes it appear as though the depth charge had settled the fate of the submarine. Yet that was far from being the case, for against the ash can, with its three hundred pounds of TNT, the submarine had one very powerful defensive weapon. That was its invisibility. Strangely enough the average layman is inclined to overestimate the fairly apparent fact. Indeed, the only respect in which the sub-surface boat differs essentially from all other war vessels is in this power of getting out of sight. Describing danger from afar, the submarine can disappear under the water in anywhere from twenty seconds to a minute. And its great advantage is that it can detect its enemy long before that enemy can detect it. A U-boat, sailing awash, or with only its conning tower exposed, can see a destroyer at a distance of about fifteen miles, if the weather is clear. Under similar conditions the destroyer can see these submarines at a distance of about four miles. Possessing this great advantage, the submarine can usually decide whether it will meet the enemy or not; if it decides that it is wise to avoid an encounter, all it has to do is to duck, remain submerged until the destroyer has passed on, and then resuming its real work, which is not that of fighting warships but of sinking merchantmen. The chief anxiety of the U-boat commander is thus to avoid contact with its surface foe and its terrible depth charge, whereas the business of the destroyer commander is to get within fighting distance of his quarry.

How a U-Boat Betrays Itself.

Ordinarily conditions favor the U-boat in this game, simply because the

ocean is so large a place. But there is one situation in which the destroyer has more than a fighting chance, for the power of the submarine to keep its presence secret lasts only so long as it stays out of action. If it makes no attempt to fight its presence can hardly ever be detected; just as soon as it becomes belligerent, however, it immediately reveals its whereabouts. If it comes to the surface and fires its guns, naturally it advertises to its enemy precisely where it is, but it betrays its location almost as clearly when it discharges a torpedo. Just as soon as the torpedo leaves the submarine, a wake, clearly marking its progress, appears on the surface of the water. Though most newspaper readers have heard of this tell-tale track, I have found few who really understood what a conspicuous disturbance it is. The torpedo is really a little submarine itself; it is propelled by compressed air, the exhaust of which stirs up the water and produces a foamy, soapy wake, just like that produced by the propeller of an ocean liner. This trail is four or five feet wide; it is as white and is as distinct as a chalk line drawn upon a blackboard, provided the weather is clear and the sun is in the right direction. Indeed, it is sometimes so distinct that an easily manoeuvred ship and even sometimes a merchantman, can avoid the torpedo, provided it sees it coming, by merely putting over the helm and turning out of its course. But the chief value of this wake to the submarine hunters is that it shows the direction in which the submarine was located when the torpedo started on its course. It stands out on the surface of the water like a long, ghostly finger pointing to the spot where the foe let loose its shaft.

Hunting Down the Prey.

As soon as the destroyer sees it, the commander rings for full speed; one of the greatest advantages of this type of vessel is that it can attain full speed in an incredibly short time. The destroyer then dashes down the wake until it reaches the end, which indicates the point where the submarine lay when it discharged its missile. At this point the surface vessel drops a depth charge and then begins cutting a circle, say, to the right. Pains are taken to make this circle so wide that it will include the submarine, provided it went in that direction. The destroyer then makes another circle to the left. Every ten or fifteen seconds, while describing these circles, it drops a depth charge; indeed, not infrequently it drops twenty or thirty of them in a few minutes. If there is another destroyer in the neighborhood, it also follows up the wake and when it reaches the indicated point, it circles in the opposite direction from the first. Sometimes more than two may start for the suspected location and under certain conditions of water, which is not that of fighting warships but of sinking merchantmen. The chief anxiety of the U-boat commander is thus to avoid contact with its surface foe and its terrible depth charge, whereas the business of the destroyer commander is to get within fighting distance of his quarry.

It is plain from this description that the proceeding becomes an exceedingly dangerous game. The opportunity which the submarine has of escaping is represented by the time which elapses from the moment when the destroyer reaches the point at which it was discharged. This interval gives the sub-surface boat a cer-



VICE-ADMIRAL SIR CHARLES EDWARD MADDEN, Admiral Jellicoe's Chief of Staff. It was a chance remark of Ad. Madden's which led directly to the invention of the depth charge.

tain time to get away; but its under water speed is moderate, and so by the time the destroyer reaches the critical spot the submarine has advanced but a short distance away from it. How far has she gone? In what direction did she go? These are the two questions which the destroyer commander must answer, and the success with which he answers them accurately measures his success at sinking or damaging his enemy, or giving him a good scare. If he always decided these two points accurately he would almost always "get" his submarine; the chances of error are very great, however, and that is the reason that the submarine in most cases gets away. All that the surface commander knows is that there is a U-boat somewhere in his neighborhood, but he does not know its precise whereabouts, and so he is fighting more or less in the dark. In the great majority of cases the submarine does get away, but now and then the depth charge reaches its goal and ends its career. If only one destroyer is hunting, the chances of escape strongly favor the under-water craft; if several pounce upon her at once, however, the chances of getting away are much more precarious. If the water is shallow the U-boat can sometimes outwit its pursuer by sinking into the surface enemy's fire of the chase. But in the open sea there is no possibility of getting away in this fashion, for if the submarine sinks beyond a certain depth, the pressure of the water will crush it.

While the record shows that the U-boat usually got away from the depth charges, enough were sunk or seriously damaged or given a bad shakeup to serve as a constant reminder to the crews of the danger which they ran in approaching waters which were protected by destroyers. The U-boat captains, as will appear, avoided such waters regularly; they much preferred to attack their merchant prey in areas where these soul-rickling depth charges did not interfere with their operations.

The Battle Fleet Entirely Immuned.

It is now becoming apparent why the great battle fleet, which always sailed behind a protecting screen of such destroyers, was practically immune from torpedo attack. In order to assault these battleships the submarine was always compelled to do one thing, which, above all others, it was determined to avoid—to

get within depth charge radius of the surface craft. In discharging the torpedo, distance, as already intimated, is the all-important consideration. The U-boat carries a torpedo which has a much shorter range than that of the destroyer; it was seldom effective if fired at more than 2,000 yards; beyond that distance its chances of hitting became very small. Indeed, a much shorter distance than that was desirable, if the torpedo was to accomplish its most destructive

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Lieutenant Otto Weddingen, the German commander who, when he sank the British cruisers, Hogue, the Cressy, and the Aboukir, first demonstrated the value of the submarine in warfare.

purpose. So valuable were these missiles and so necessary was it that every one should count that the U-boat's captain had instructions to shoot at no greater distance than three hundred yards, unless the conditions were particularly favorable. In the early days, these torpedoes which were fired at a greater distance, would often hit the ships on the bow or stern, and do comparatively little damage; such vessels could be brought in, repaired in a short time,

and again put to sea. The German Admiralty discovered that in firing from a comparatively long distance it was wasting its torpedoes; it therefore ordered its men to get so near the prey that it could strike it in a vital spot, preferably the engine room; and to do this it was necessary to creep up within 300 yards. But to get as close as that to the destroyers which screened the battleships meant almost certain destruction. Thus the one method of attack which was left to the U-boat was to come up in the midst of the battle fleet itself. A few minutes after its presence should become known, however a large number of destroyers would be dropping depth charges in its neighborhood and its chances of escaping destruction would be almost nil, to say nothing of its chances of destroying ships.

The Germans learned the futility of this kind of an operation early in the war, and the man who taught them this lesson was Commander Weddingen, the same officer who first demonstrated the value of the submarine in practical warfare. It was Otto Weddingen who, in September, 1914, sank the old British cruisers, the Hogue, the Cressy and the Aboukir, an exploit which made him one of the great popular heroes of Germany. A few months afterward, Commander Weddingen decided to try an experiment more hazardous than was that of sinking three unescorted cruisers; he aspired to nothing less than an attack upon the Grand Fleet itself. On March 18th, a part of this fleet was cruising off Cromarty, Scotland; here Weddingen came with the U-29, dove under the destroyer screen and fired one torpedo, which passed astern of the Neptune. The alarm was immediately sounded and presently the battleship Dreadnought, having seen the periscope, started at full speed for the submarine, rammed the vessel and sent it promptly to the bottom. As it was sinking the bow rose out of the water, plainly disclosing the number U-29. There was not one survivor. Weddingen's attempt was an heroic one, but so disastrous to himself and to his vessel that very few German commanders ever attempted to emulate his example. It clearly proved to the German Admiralty that it was useless to attempt to destroy the Grand Fleet with submarines, or even to weaken it piece-meal, and probably this experience had much to do with this new kind of warfare—submarines against unprotected merchant ships—

mines, cruising in the open sea was recognized as its best means of avoiding the German U-boats. No claim is made that the submarine cannot give under the destroyer screen and attack a battle fleet, and possibly torpedo one or more of its vessels. The illustration already given shows that Weddingen nearly "got" the Neptune; had this torpedo gone a few feet nearer his experiment might have shown that, although he subsequently lost his own life, he had sunk one British battleship—a proceeding which, in war, might have been recognized as a fair exchange. But the point is that the chances of success were so small that the Germans decided that it was not worth while to make the attempt. Afterward, when the merchant vessels were formed into convoys, the submarine occasionally dived under the screen and destroyed a ship; but most such attacks were unsuccessful, and experience taught the Germans that a persistent effort of this kind would cause the destruction of so many submarines that their campaign would fail. So the U-boat commanders left the Grand Fleet alone—either because they lacked nerve, or because their instructions from Berlin were explicit to that effect.

A Tonic For the Nerves

The Only Real Nerve Tonic is a Good Supply of Rich, Red Blood.

"If people would only attend to their blood, instead of worrying themselves ill," said an eminent nerve specialist, "we doctors would not see our consulting rooms crowded with nervous wrecks. More people suffer from worry than anything else."

The sort of thing which the specialist spoke of is the nervous run-down condition caused by overwork and the many anxieties of today. Sufferers find themselves tired, morose, low-spirited and unable to keep their minds on anything. Any sudden noise hurts like a blow. They're full of groundless fears, and do not sleep well at night. Headaches, neuritis and other nerve pains are part of the misery, and it all comes from starved nerves. Doctoring the nerves with poisonous sedatives is a terrible mistake. The only real nerve tonic is a good supply of rich, red blood. Therefore to cure nervousness, get run-down health Dr. Williams' Pink Pills should be taken. These pills actually make new, rich blood, which strengthens the nerves, improves the appetite, gives new strength and spirits, and makes hitherto despondent people bright and cheerful. If you are at all "out of sorts" you should begin curing yourself to-day by taking Dr. Williams' Pink Pills. You can get these pills through any dealer in medicine, or by mail at 50 cents a box or six boxes for \$2.50 from The Dr. Williams' Medicine Co., Brockville, Ont.

PLAN DISTRIBUTION OF FEDERAL GRANT

Quebec to Have \$20,000,000 Spent on Good Roads Over the Country.

Quebec, Oct. 24.—Peter Mullarkey and W. G. Magrath, two of the members of the special commission appointed by the Federal Government to supervise the distribution and use of the \$20,000,000 voted by the Federal Government for the construction and maintenance of good roads all over the country, had a long interview with Sir Lomer Gouin and Hon. J. A. Tessier, Minister of Roads.

Final arrangements were made for the distribution of the Federal good roads grant. The Federal Government will make grants only for the construction of permanent provincial and interprovincial roads. The Government grant will be forty per cent of the cost of the undertaking and the Provincial Government will lend the sixty per cent, balance to the municipalities, according to the provisions of the Good Roads Act of 1912. Hon. Mr. Tessier's department is making all the necessary arrangements to have the province of Quebec benefit to the fullest extent of the Federal Government grants.

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