

**The dramatically exciting story of the
last days of the German Navy and its
greatest battleship**

THE

TIRPITZ

AND THE BATTLE FOR THE NORTH ATLANTIC

**David
Woodward**



COMPLETE AND UNABRIDGED

November 12, 1944

LAST DAY OF THE TIRPITZ

The Lancasters came out of the sun and started bombing from 14,000 feet; the bombs went away and there was a time of waiting before they started to hit. Then there was a yellow flash on the battleship's forecastle. A bomb hit the shore, two more hit the ship, one by the bridge and one abaft the funnel, then smoke covered her, but they could see other bombs burst inside her nets and through the smoke she could be seen burning. There was another flash and a column of smoke five hundred feet high. A magazine had gone . . .

". . . should be of great interest and enlightenment to everyone interested in the history of the decisive battle for the life lines across the Atlantic in World War II."

—Richmond News-Leader

"A thoroughly engrossing book, the story of the Tirpitz should have almost universal appeal."

—Pasadena *Star News*

"Woodward's volume is splendidly done . . . gives a sharp picture of the Battle for the North Atlantic . . . the episodes are told with masterly skill and color . . ."

—Nashville *Tennessean*

"The book is far more than the story of a single ship. It is a study of the building of the Third Reich's surface navy and of its operations from 1942 to the end. It deserves to be read not only as good narrative but as a serious document on the function of navies in modern war."

—Fletcher Pratt,

New York Times Book Review

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AND THE BATTLE FOR THE NORTH ATLANTIC

DAVID WOODWARD



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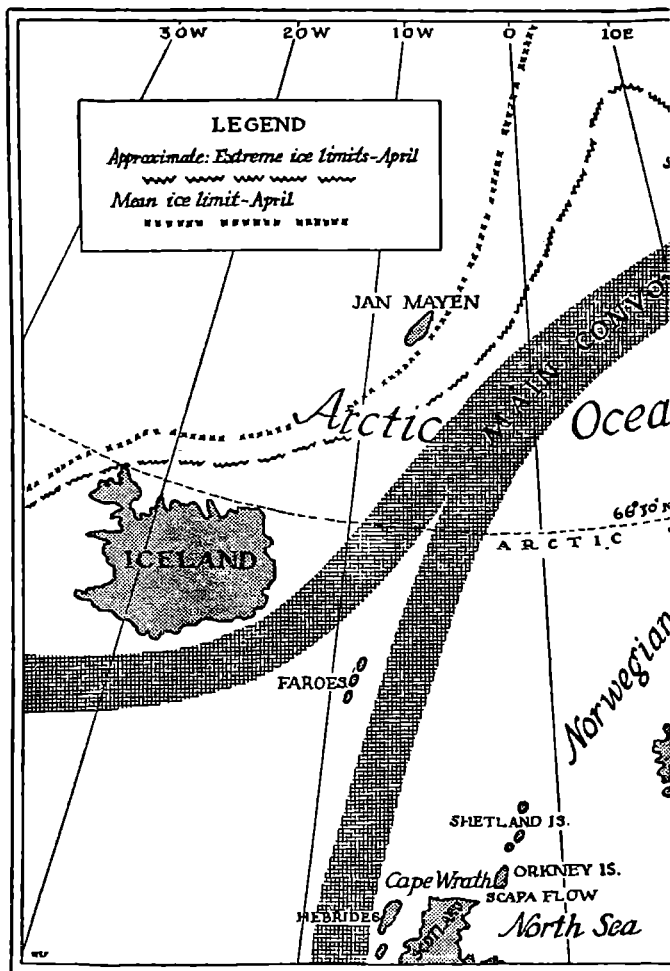
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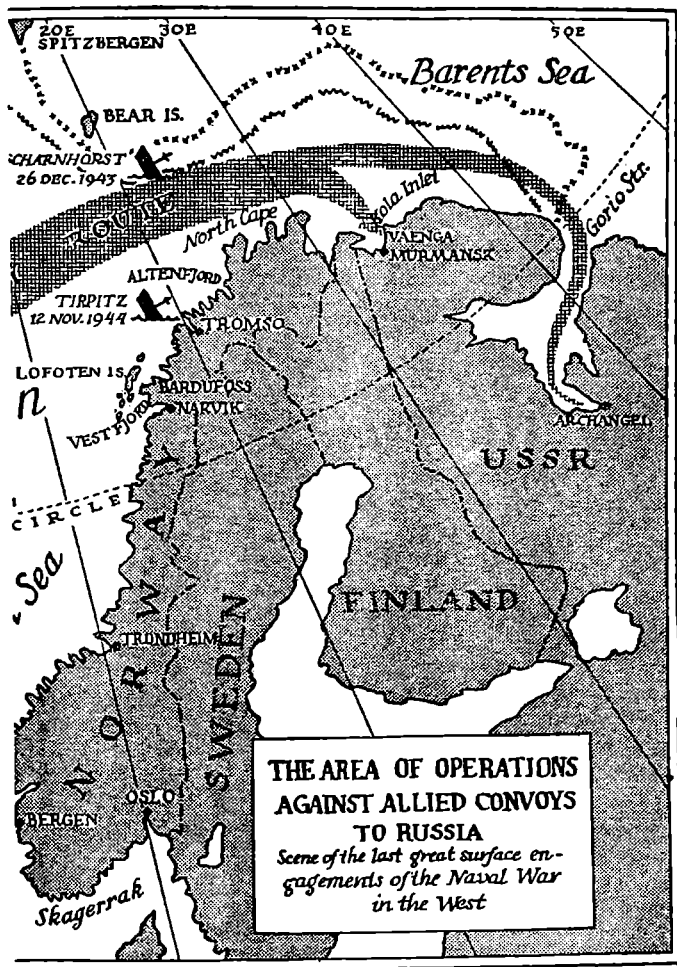
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**THE AREA OF OPERATIONS
AGAINST ALLIED CONVOYS
TO RUSSIA**
*Scene of the last great surface en-
gagements of the Naval War
in the West*

PREFACE

An account of the part played by the *Tirpitz* in the war at sea must necessarily be diffuse. Most of what she did she achieved by her mere existence, leaving it to other surface ships, to submarines, and to aircraft to deal the actual blows against the Allied cause at places often thousands of miles apart.

In a way, her role was similar to that of the German High Sea Fleet in the First World War; she backed up the U-boats and aircraft in their war against the Allied supply lines, and she pinned down Allied forces—mostly British—whose combined strength greatly exceeded her own.

The struggle against this ship started when she was completed in January, 1942, and went on until she was sunk nearly three years later; at first it was merged with the struggle that was waged against the other big German surface ships—but in the end only the *Tirpitz* was left, despite the fact that the geography of the war favored the German ships; the possession of bases on the Atlantic both in Norway and in France meant that the blockade positions of the 1914-18 War—the Straits of Dover and the Bergen-Shetland line—were useless.

The Atlantic was thus wide open to the German ships, the Atlantic upon which we depended for supplies from America, and the Atlantic upon which we dispatched troops and supplies to the Middle East and the Far East and supplies to Russia.

From the start the main brunt of the attack on these lines of communication was borne by U-boats, but it was intended by the Germans that surface ships should play their part as well. At a time when much hung upon the fate of a single Allied convoy, the lucky or skillful use of the surface ships might have altered the course of the war.

In these circumstances it became immensely important that the big German surface raiders should be kept in check; at the beginning of the war, at least, they were able to make voyages which it was not possible for submarines to undertake. A single raider such as the *Graf Spee* could draw into the outer seas, away from the main Atlantic struggle, a dozen major Allied war vessels.

At the same time that the German warships especially built for commerce raiding were making their cruises, converted German cargo ships were seconding them, either as raiders themselves, operating against solitary merchant vessels, or as supply ships in support of the others.

All this activity reached its peak in the spring of 1941, before the *Tirpitz* was ready for sea, but we could not know at that time that the great days of the surface ships were over; of the ten potential big raiders—*Bismarck*, *Tirpitz*, *Scharnhorst*, *Gneisenau*, *Graf Spee*, *Scheer*, *Lützow* (the former *Deutschland*), *Prinz Eugen*, *Hipper*, and *Blücher*, only the *Bismarck*, *Graf Spee* and *Blücher* were sunk, and we could not dare to hope that the remaining ships would be hamstrung by a shortage of oil and gradual winning by the Allies of command of the air.

In the event, however, the big ships were never able to do as much damage after this as they had done before; under the circumstances it may perhaps be asked why it should be considered that it is the career of the *Tirpitz* rather than the careers of the other ships which should be deemed especially worthy of record.

There are two reasons for this: First, the fact that there was nothing sensational about the *Tirpitz*, except her great size and the courage and ingenuity of the efforts made to destroy her, meant that her influence on the war at sea, which was very considerable, tends to be overlooked. The second reason for examining the career of this ship is that the circumstances under which she operated—or did not operate—between 1942 and 1944 correspond much more closely to those which would obtain in a war breaking out within the next few years, than did the conditions of the war at sea during 1939-41.

The big changes for the better as far as the Allies were concerned in comparing these periods were, first, the growing difficulties experienced by the enemy in obtaining adequate supplies of oil, and second, the increasing range and striking

power of bomber aircraft; but it must be remembered that those advantages, decisive though they proved to be in the long run, would have meant very little had we not been able to amass an overwhelming superiority in ships, planes, and weapons of land war.

Whether this essential superiority will be ours at the outbreak of another war is more than doubtful. Democracies do not go to war when the balance of forces is in their favour, for then they are not attacked.

Accordingly, though we would have to try to cripple or sink any ship in the position which the *Tirpitz* held in 1942-44, it might not be an easy matter, and there would be, perhaps, a good deal that might usefully be learned from our experience with the *Tirpitz*.

ACKNOWLEDGMENTS

The greater part of the material used in this book was first gathered for a feature dealing with the *Tirpitz* which was broadcast in Home Service of the B.B.C. on November 21, 1952, and my gratitude and thanks are therefore due in the first place to Laurence Gilliam, Head of the Features Department.

Reg Holmes of the office of the Chief of Naval Information at the Admiralty, and L. M. MacBride, Chief Public Relations Officer of the Air Ministry, arranged for me to meet many of the participants in the events which I have described and were extremely helpful throughout the preparation of the feature and the book, as was Commander Malcolm Saunders, of the Historical Section of the Admiralty.

The original radio script was read by Air Chief Marshal the Hon. Sir Ralph Cochrane, G.B.E., K.C.B., A.F.C., then Vice Chief of the Air Staff, and the alterations which he suggested with great courtesy were made.

I was fortunate in being able to discuss the whole series of campaigns against the *Tirpitz*, and in particular the carrier strikes against her, with Admiral Sir Michael Denny, K.C.B., C.B.E., D.S.O., who was Captain of H.M.S. *Victorious* when the big strike of April 3, 1944, was made, and who subsequently became Third Sea Lord.

While investigating the story of the X-craft attack, I was able to renew my acquaintance with Commander Godfrey Place, V.C., D.S.C., an acquaintance begun in the Union Club, Malta, during the siege and resumed on the occasion of the liberation of the naval prisoners-of-war camp at Westertimke, near Bremen. I also enjoyed the hospitality of Wing-Commander and Mrs. J. B. Tait. These meetings made it possible for me to get a first-hand account of events in which these officers played a leading part.

My colleague T. J. Waldron generously let me refer to the accounts of the chariot and X-craft attacks on the *Tirpitz* which he and James Gleeson had incorporated in their book *The Frogmen*, published by Evans Bros., as well as other information which they had obtained during the research for the book.

Other important information on the naval air side of this story I received from Commander Michael Fell, D.S.O., D.S.C., Commander E. G. Clutton, Mr. E. Child, and Mr. R. L. Bigge-Wither. Mr. C. E. T. Warren was kind enough to talk to me about the development and use of X-craft and Lieut. C. W. Chadwick, R.N. (retd.) communicated information about the diving survey made of the *Tirpitz's* hull after the war had ended.

Without all this kind and considerate help there would have been neither a feature nor a book, but the full responsibility for the facts and opinions contained in both is my own.

THE GERMAN NAVY

Tirpitz,¹ when she was completed, was the biggest battleship in the world. For three years she lay miles from the sea in the remote fiords of northern Norway, under the shadow of the North Cape. Her trips out into the Arctic were few, but this one ship had an immense influence on the conduct of the war.

To stop her breaking out into the Atlantic raiding the convoys to North Russia, the British Home Fleet was needed at all times. To keep that force up to strength, sacrifices had to be made all over the world.

Because the ships required to protect them were watching *Tirpitz*, battleships were lost in the Far East, freighters were sunk in the Atlantic, and Arctic convoys to Russia destroyed, cut to pieces, or delayed, so that the Russian armies in their great campaigns were almost fatally handicapped.

She could never be left alone; we did everything we could to sink her—bombs, torpedoes, mines, and depth charges, brought against her by aircraft carriers, bombers, midget submarines, frogmen, and a 55-foot Norwegian fishing boat.

She always had to be watched from close at hand, by submarines, by aircraft, and by groups of the Norwegian Resistance Movement.

This book tells the story of the ship and her fate. It is based on British, Norwegian, and German official sources, and

¹The name of the ship was *Tirpitz* and not *Admiral von Tirpitz*, though she was frequently so referred to in British official documents. On the other hand, the two pocket battleships and the heavy cruiser named after admirals *Graf Spee*, *Scheer* and *Hipper*, all had the prefix *Admiral* before their names, though it was often omitted even officially. Another mistake frequently made in referring to the last three ships was to put the prefix "von" before their names.

on the personal stories of the men, Allied and enemy, who took part in the operations.

The *Tirpitz* was launched at Wilhelmshaven on April 1, 1939, in the presence of Hitler, who made one of those speeches which served to screw up the tension of the spring and summer of that year a couple more degrees toward bursting point.

As was the German custom, the name of the ship was kept secret until the last moment when the decorated bottle of wine smashed against the ship's side, and workmen lowered into place over the bows two great signs bearing the word "Tirpitz" in heavy Gothic characters.

The launching ceremony was performed by the daughter of Tirpitz, Frau von Hassell, wife of the German Ambassador to Rome, who was executed for his part in the 20th July plot.

Side by side with Hitler and Frau von Hassell on the decorated rostrum under the ship's bow was Grand Admiral Erich Raeder, who was then building up the second German navy, just as Grand Admiral Tirpitz had built up the first; he must have felt personal satisfaction at this choice of name, for when the *Tirpitz's* sister ship *Bismarck* had been launched a few weeks before he had made a bitter little speech on the subject of the naming of warships. *Bismarck* had not been popular in the German navy—the necessity for which he had never seen—and only pressure from the highest authority could have persuaded Raeder to agree to use the name. In the same way Kaiser Wilhelm II had ordered one of his cruisers to be named *Fürst Bismarck* back in Tirpitz's day, as a gesture of appeasement to the old Chancellor.

For Raeder and the second German navy, the launching of the *Tirpitz* marked the passing of a milestone on the road to the construction of a navy big enough to be a real challenge, on the surface of the sea as well as below it, to Britain. Five or six years' more peace and the task, Raeder calculated, would be done. That would be 1945, just ten years after Hitler had torn up the disarmament provisions of the Treaty of Versailles and just over a quarter of a century after the first German navy had committed mass suicide at Scapa Flow.

The story of what had gone on in the twenty years between 1919 and 1939, and indeed during the whole lifetime

of Tirpitz and Raeder, throws vital light on the conduct of the Second World War at sea by the Germans and on the activities of the *Tirpitz* herself.

When the disarmament clauses of the Treaty of Versailles had finished with the German navy, there were left to it eight pre-dreadnaught battleships, already out of date in 1919, eight light cruisers in a similar state, and thirty-two destroyers and torpedo boats. Submarines and naval aviation were forbidden.

In addition it was stipulated that any ships built to replace those which were worn out were limited as to size in such a way that they would be smaller than the corresponding categories of vessels which could be built elsewhere in the world; the maximum displacement of battleships was fixed at 10,000 tons, that of cruisers at 6,000 tons, destroyers at 800 tons and torpedo boats at 200 tons.

But infinitely worse than this was the state of mind of what was left of the service as a whole. There could be no forgetting the powerful surface fleet—the second largest in the world—which had been defeated without a decisive battle, and whose mutinous collapse when ordered to sea at the crisis of the war had furnished the spark which had set the whole war-weary semi-starving Second Reich on fire with revolution within a few days.

The Imperial Navy had ended its days conscious that it had failed to fulfill its high hopes of itself, and that its own dereliction of duty had been responsible for ending the war in a manner of the deepest humiliation—although at the saving of countless lives, German and Allied, which would otherwise have been lost in a struggle, hopeless from the German point of view, during the first months of 1919.

The position was horrible and might have seemed hopeless; a beaten nation in the midst of revolution, and a disgraced fleet—now without ships or crews. All that remained was a handful of officers who with extraordinary tenacity, in the teeth of the opposition of their own people, their own government, and the treaty stipulations imposed by their victorious enemies, set about the reconstruction of the navy.

Raeder's fleet was to be the second German navy; its beginnings in the most miserable circumstances contrasted with the start which had been made with the building of the first navy, less than a quarter of a century previously, when Tirpitz, Secretary of State for the Navy, had begun the work

of transforming what was, in 1897, nothing more than a coast-defense force into a fleet which was specifically designed to be of a size which the biggest fleet in the world (the British, of course) would not dare to fight.

It was typical of German diplomacy, conducted then as later with a club in the hand and fair words on the lips, that much was made of the fact that this navy, designed to prevent Britain risking a war with Germany, was not intended against Britain at all.

Tirpitz claimed to see no reason why Britain should be worried about his navy, just as later Hitler claimed to see no reason why Britain should worry about such matters as the invasion of Poland or the abrogation of the Anglo-German naval agreement, though as we shall see, Raeder had plans for the creation of a fleet specifically to "solve the British problem" which was to be built up to a satisfactory strength while Britain looked quietly on.

Tirpitz was born in 1849; like most German naval officers he came from a middle-class family, the "von" being bestowed upon him later. His appointment as Secretary of State followed a period of command in China, but what had clearly marked him out as the best organizer that the German navy possessed had been a period, before that, as Inspector of Torpedo Boats. Torpedo boats were fragile and they and their weapons were new. Nobody was sure of what they could do, but in France and Germany there were hopes, and in Britain fears, that they might mean the end of the great fleet of British battleships. Tirpitz took his boats and drilled them until they achieved a brilliant level in tactics and handling which they bequeathed to the destroyers of the High Sea Fleet, a level they maintained until the very end of the First World War. Certainly not until after Jutland—if then—did the British Grand Fleet destroyers reach a comparable standard.

When Tirpitz started his campaign for a big navy, he had money, public enthusiasm stiffened by the German Navy League with a membership of nearly a million, and the over-enthusiastic support of his Emperor.

He provided excellent ships, reasonable crews, very good officers in the junior and middle grades, and no naval high command at all; he had deliberately separated his own supply and administrative branches from the naval command proper, which was nominally exercised by the Kaiser, in order that

in his own work he should be given a free hand, and it was one of his greatest mistakes. When the war came there was nobody in a senior position to conduct a naval war, and nobody who could command a fleet. After eighteen months one of the squadron commanders of the High Sea Fleet at the outbreak of the war, Reinhold Scheer, became Commander-in-Chief and showed himself to be a great admiral, but it was only at the very end of the war that he was given the position and power required for a sensible conduct of naval warfare.

Tirpitz, who before the war had been within measurable distance of being Chancellor of the Reich, found himself as soon as the war started in a position of no authority at all, waiting on the Supreme Headquarters in Coblenz, or pestering its forward echelon in Luxembourg, trying to get somebody to listen to him. But Supreme Headquarters was an army matter, and the army thought very little of the navy; in the first place they could and would win the war by themselves, and secondly they resented the fact that in peacetime the navy had used up public money which, according to them, could more usefully have been employed in making the German army even more powerful than it was.

Tirpitz himself seems to have had no very clear idea of what he wanted, except that it would do no good for the fleet simply to remain in its bases, and within a few months after the war had begun, he was convinced that the only hope for a victory at sea lay in the use of the submarine against the merchant ships upon which the Allies depended for their existence; but if the U-boats were to be effective, they would have to sink without warning and that was strictly forbidden by international law. Bethmann-Hollweg, who was the Chancellor, had agreed, in all probability with real reluctance, to the violation of Belgian neutrality, which had brought Britain into the war. He was not prepared to agree to the violation of international law at sea by German submarines, for that would in all probability bring the United States in as well. The army was confident enough of its eventual success during the winter of 1914-15 not to bother about the sea affairs, so that Tirpitz found both the army and the politicians against him for the time being.

Meanwhile the war at sea had started in a very different manner from that which had been expected by the German naval officers. It had been suggested that the High Sea Fleet or part

of it might intervene against the British Expeditionary Force as it was being taken across the Channel, but the army had replied that it did not care if the British were sunk or not, as they would easily be defeated by the German army in the field. Together with this attitude was the belief that the British had only entered the war in a perfunctory fashion and would be willing to make peace once their allies on land were defeated—a point of view which may be compared with Hitler's belief that Britain would make peace in 1939 after Poland had been defeated, and in 1940 after France had been defeated, and in 1941-42 when Russia appeared to be defeated.

There seemed to be no point in sacrificing the navy, especially as it was thought that its very existence would be of value at the peace conference which was confidently expected about Christmas 1914. Thus the fleet remained in harbor, disappointed and puzzled, too, not only by its own inaction but also by the fact that the British were not fighting the war in the fashion which they had been led to expect.

According to the Germans, on the outbreak of war the British battle fleet was to have moved into the Heligoland Bight to institute a close blockade and to present suitable targets for the German torpedo craft, while the Bight would be sown with mines. Of course, the British did not do this, though one British foray into the Bight cost the Germans three light cruisers and one destroyer. There were no British losses. The blockade lines were drawn from Scotland to Norway and not close to the German ports, so that the loss to the British Grand Fleet from mine and submarine was limited to one battleship. Up to 1911 something on the lines of what the Germans expected had been planned, but, following the Agadir crisis, there arrived at the Admiralty Mr. Churchill and Prince Louis of Battenberg as First Lord and First Sea Lord respectively with orders to clean up the extraordinary muddle which it had been found existed in the Admiralty with regard to planning and organization.

Prince Louis was a German prince in the British service, completely loyal to his adopted country, but driven from office just after the outbreak of war by a whispering campaign the full story of which has never been written. His strategy of the remote blockade was the only one possible in view of our complete lack of experience of, or protection against, mines and torpedoes, but it did mean the abandonment of any hope of intervention by the British fleet (other than submarines) in

the Baltic, at a time when naval intervention there would have been of great assistance to the Russian army.

When the Germans saw that the British fleet was far away, based on northern Scotland and Ireland, they began a series of raids with their battle-cruisers on English east-coast towns. From the point of view of the damage they did, the attacks were ridiculous, but there was always the chance that a small part of the British fleet would be caught at a disadvantage and sunk either by the German battle-cruisers, by submarines, or by mines, and in fact this nearly happened on December 17, 1914, when the Germans had a chance of wiping out a British battle squadron, and the British had a chance of wiping out three German battle-cruisers. Both opportunities were missed, by a combination of bad weather, luck, and ineptitude, though the German battle-cruiser leader, Hipper, was on a par of excellence with Scheer. One more raid of this sort and the Germans were caught, losing their weakest ship, the *Blücher*, and nearly losing another, which was saved from destruction by a petty officer who, as the ammunition in the two rear turrets caught fire and threatened to explode the magazines, seized the flooding valve wheel, already glowing red hot, and turned it with his bare hands. When the ship got back to Wilhelms-haven, the two burnt-out turrets were opened and the crews were found standing at their posts. At the first breath of air, their bodies collapsed into powder. They had been cremated alive by the fierce rush of flame.

After this action, which was the battle of the Dogger Bank, great caution once more descended upon the High Sea Fleet, for it was appreciated that if it had not been for misunderstanding between Beatty, the British Commander, and his second-in-command, together with the superlative quality of the construction of the German ships (for which Tirpitz was responsible) the battle-cruiser force would have been destroyed.

The Kaiser now laid it down that the main fleet should not be risked without his prior consent—a measure which was to be taken in the next war by Hitler, with equally poor results.

At the time, the ability of the British to intercept, in the age before radar and air reconnaissance, seemed miraculous. In fact it was due to a great stroke of good fortune; in the early days of the war, in the Baltic, the Russians had driven ashore a German light cruiser, and had taken from the body of a

German warrant officer a copy of the German code which ended up in the Admiralty in Whitehall.

It was in the lull which followed the Dogger Bank battle that Tirpitz was able to carry forward his campaign for unrestricted submarine warfare. Certainly by then the best chance that the High Sea Fleet had for victory in a pitched battle had passed; during the last months of 1914 the difference in strength between the British and German battle fleets was so very small that had the Germans chosen to give battle when they were at full strength they would almost certainly have found the British only two or three ships stronger. The experience of Jutland, when in the first two hours three of our capital ships were lost without a single equivalent German ship being sunk, shows quite clearly what might have happened.

Meanwhile, the German cruisers, heavy and light, which had been outside home waters at the outbreak of the war, were trying to do as much harm as possible to British seaborne trade and also to get home as best they could; the nucleus of this force was the former Far Eastern Squadron under Graf Spee, with the armored cruisers, *Scharnhorst* and *Gneisenau*. This force made its way across the Pacific, causing intense anxiety as it went. The Allies from Japanese waters down to Australia and across to Chile tried to hunt them down, and simultaneously to protect their convoys of troops and the regular flow of merchant ships.

Apart from holding up convoys and generally bedeviling Allied shipping, Spee accomplished very little until he got to the Chilean coast. Here, off Coronel, he ran into a British squadron of inferior strength under Rear-Admiral Sir Christopher Cradock, who had to choose between attacking the Germans and falling back on the support of a slow battleship, ancient but powerful enough to dispose of the entire German squadron if the Germans stayed in the neighborhood for any length of time. Cradock attacked, and his two biggest ships were lost with all hands, while the Germans went unscathed. The British admiral was criticized for not seeking the protection of his battleship, though if he had done that he would never have had a chance of catching the much faster Germans. He was caught in a dilemma that is eternal; there is little doubt that in making his decision he was much influenced by the escape of the *Göben* and *Breslau* from the Mediterranean through the Dardanelles in the first month of the war, when

another British admiral was criticized for not attacking the enemy although they greatly exceeded the British ships in strength.

Such an attack would never be undertaken if there were any reasonable alternative. The lesson of the First World War was held to be that there was no such thing possible as a "useful defeat," that is to say an action in which a smaller ship, greatly overwhelmed in strength, could inflict sufficient damage on a larger opponent to justify its staying to fight rather than running away. Thus not only did Spee defeat Cradock without suffering damage, but the British force under Vice-Admiral Sturdee did the same thing to Spee just over a month after Coronel, off the Falkland Islands, and the German raiders loose in the Pacific, the Indian Ocean, and the South Atlantic were, when intercepted by larger British cruisers, sunk without being able to do any considerable damage to their adversaries.

In the Second World War, things worked out the other way round; time and time again smaller ships, even though themselves sunk, were able at least to put out of action their bigger opponent. This was a consideration which was to weigh very heavily with the Germans in the conduct of their surface-raiding operations throughout the war. Even their big ships were extremely cautious about allowing themselves to be attacked by much smaller enemies, realizing that as the result of such an attack, though the enemy might be at the bottom of the sea, they themselves ran a considerable risk of being out of action a long way away from a friendly base.

Even if they did get home, there was always the prospect of months to be spent in dockyard hands, useless, while the R.A.F. and the dockyard workships engaged in a race, to destroy the ship as she lay in the yard, or to get her repaired and out of reach of air attack.

When the Germans thought on such matters, they were bound to take into account such an action as that between the 14,000-ton German cruiser *Admiral Hipper* and the British destroyer *Glowworm* of just one-tenth her size, in which the British ship rammed her adversary before she herself was sunk, and thus put the German out of action for weeks at the very beginning of the campaign in Norway. A companion picture to this was the action of the two British destroyers *Ardent* and *Acasta* against the *Scharnhorst* at the end of the same campaign, when both destroyers were sunk, but not before the *Scharnhorst* was torpedoed and crippled for six months.

These were by no means the only examples; the German raider *Kormoran*, a converted merchant ship, succeeded before she sank in setting fire to the Australian cruiser *Sydney*, so that the Australian ship made off in flames, and was never heard of again. An American merchant ship with a single gun sank another German surface raider, while an Indian minesweeper and a Dutch merchant tanker, with a total of two small guns between them, defeated two Japanese auxiliary cruisers armed with twelve 5.5-inch guns and sank one of them.

Of the superb courage shown in these actions, it is not possible to write worthily, but in striking the balance, in the most cold-blooded way, of these fights it must be mentioned as a huge, magnificent imponderable which has always to be taken into account. The danger which a ship might run in engaging a vessel much smaller than itself was a consideration which weighed more heavily with the weaker side, for the fate of a single ship was correspondingly less important to the stronger. Moreover, in both world wars the weaker side was the power less well off in the matter of bases and repair facilities.

We know from survivors that this problem was much in Spee's mind as he brought his squadron to its fate off the Falklands. He cherished the idea of raiding Port Stanley, the islands' capital, and abducting the governor as a reprisal for the action of the British in taking prisoner the Governor of Samoa. The captain of the *Gneisenau* was horrified at this idea and urged the Admiral not to make the attack for what was simply a question of prestige. After all, there were plenty of other things for Spee to do: there was the traffic of the River Plate to bring to a standstill; there were a series of campaigns in progress in Africa in which the intervention of the German ships would almost certainly have been useful; and finally there was the prospect of a return to Germany, after steaming halfway round the world, destroying a British squadron, and coming triumphantly home, having interrupted the flow of supplies and troops. Spee had, incidentally, drawn out into the Atlantic three of the British battle-cruisers, the only ships that could hope to catch the German battle-cruisers which had just begun their raids on the English coast. But he went to the Falklands believing the harbor to be empty and instead found that two of the British battle-cruisers had arrived the day before. A long chase followed, and as the sun set in the sub-Antarctic wastes of water, the albatrosses came to attack the sur-

vivors of the German ships as they struggled in the water. Four out of five German ships were sunk then, and one chased into hiding on the Chilean coast, to be caught three months later at Juan Fernandez, Robinson Crusoe's island.

Back in Germany Tirpitz watched this with a heavy heart. Although he had persuaded the Kaiser and others that what Germany wanted was not a fleet of raiding cruisers but a fleet of battleships, he knew the value of the cruisers as an auxiliary to a battle fleet and he appreciated what the squadron was doing and the advantage that might have been gained if the High Sea Fleet had come out when the British Grand Fleet was weakened by having dispatched ships to catch Spee.

Tirpitz believed that if Spee had kept his ships separated and away from British bases, he could have achieved much more, and for the rest of his stay in office he wished to repeat the experience—and send a further cruiser force from the High Sea Fleet onto the high seas. From *The World Crisis* we know how anxiety lest the Germans should do this weighed upon Mr. Churchill and his colleagues in that war as it was to weigh upon them in the next, but nothing came of Tirpitz's ideas and Churchill's apprehension, probably because of the difficulties of keeping the projected raiding force supplied with coal—for this was before the universal use of either fuel oil or Diesel oil in large warships.

1915 passed, a year in which the Germans did well on land and poorly at sea. Against the advice of Tirpitz, unrestricted submarine warfare was initiated in February, when there were not enough submarines to carry it out effectively, and although British losses were severe, the Germans probably lost more by the reaction of American public opinion to the sinking of the *Lusitania* and other occurrences of the same sort, less well remembered now. As a result of American protests, the order for unrestricted warfare was modified in March 1916, at a meeting to which Tirpitz was not asked, whereupon he resigned. Tirpitz had got himself in a position which brought out fully the inconsistencies of his policy and position. He urged unrestricted submarine warfare, but he had failed to provide the submarines to wage it. Thus he had to recommend holding back when a chance came to adopt the policy he had wished to initiate.

He was overruled, and then, later, not even consulted when the German government changed its mind and suspended the campaign.

After retirement Tirpitz entered the Reichstag as an extreme nationalist, and was one of those who intervened to persuade Hindenburg to be a candidate for the Presidency in 1925. He died in 1930, a man within whom were very mixed degrees of ability—a first-rate organizer, able before 1914 to have his way at the Kaiser's court; success there made him feel that he was equally competent to take political decisions on an international scale, while as far as posterity is concerned he made the mistake of writing an autobiography designed to prove that he had always been right about everything.

The change of submarine policy in March 1916, meant that U-boats would now be available for acting with the High Sea Fleet; it coincided with the appointment of Scheer to command the High Sea Fleet, and with a decision that the big ships were to play a greater part in the war.

Scheer's first plan was to dispose his U-boats in front of British bases, make sorties with the High Sea Fleet, and hope that these would lure the Grand Fleet out, through the submarine ambushes.

One such sortie was planned for the end of May; as usual the British learned of it, though they did not realize its full extent. Scheer left Wilhelmshaven and steered for the Naze (the southern tip) of Norway. Jellicoe and Beatty left their Scottish bases and headed southeast. Both Jellicoe and Scheer were preceded by their battle-cruisers under Beatty and Hipper.

The left-hand tip of Beatty's light cruiser screen coming south just sighted the left-hand tip of Hipper's light cruiser screen going north, and the battle of Jutland ensued.

Despite British losses, however, night fell on May 31 with the British forces—both Beatty's and Jellicoe's—between the Germans and their bases. In the night that followed, Scheer, whose forces were outnumbered by roughly five to eight, made three tries to break through the British line and get home safely. Finally he succeeded, going through the British destroyers at the tail of the battle fleet. Fighting broke out, but owing to defects in night tactics generally, and the transmission of information in particular, it was not until far too late that news of this reached Jellicoe; by then the Germans were safe.

From the British point of view it was heartbreaking; the poor protection of ships, the poor quality of ammunition, poor communications, and the lack of training in night fighting cost them a victory—but for the Germans it meant that, al-

though they were more or less intact at Wilhelmshaven, their war was virtually over.

Scheer was far too good a sailor and far too honest a man not to know what he owed to luck, and he realized, too, that he would never dare count on so much good luck again.

Accordingly, he sat down on his return to port and wrote a report, pointing out that there was no chance for Germany to be victorious at sea unless unrestricted submarine warfare was adopted; another sortie on August 18-19 was made by the High Sea Fleet which very nearly resulted in a fleet action, but Scheer was under no illusions as to what the result would have been and he continued to press for unrestricted submarine warfare. It came, and so did the American entry into the war. According to the Germans, American intervention would be of no value, as the American troops would never be able to get to Europe through the German submarine blockade; in the meantime, six months would suffice to starve out Britain.

Instead, the Germans found themselves with the American army in France, and, despite the collapse of Russia, the Allies were stronger than they had ever been, both on land and on sea.

After the German army had suffered great defeats, the Germans asked for conditions of peace; on the one hand President Wilson referred them to the Fourteen Points and on the other said that there could be no question of discussing peace terms as long as the unrestricted submarine warfare campaign was still being carried on. Accordingly the U-boats were called off and returned home.

By now Hipper was in command of the fleet, with Scheer as something approaching Chief of the Naval Staff, ashore. The U-boats were again free to work with the fleet and the navy planned to do what it had tried to do in the early part of 1916, that is to say, station the U-boats in front of the British naval bases while the main body of the German fleet made a sortie, with the hope that the British would come south, past the submarines and through the minefields.

This sortie, the most ambitious ever planned, was to take the form of a raid by light cruisers and destroyers against the Straits of Dover, while the High Sea Fleet took up position off the north coast of Holland to protect them. If the operation had taken place, it might have done a good deal of damage, though there could be no question of its affecting the outcome of the war.

But it did not take place; as the battleships passed through the locks at Wilhelmshaven for the open sea, there were some last-minute pierhead jumps.

Next morning the crews of two battleships refused to weigh anchor; other loyal ships surrounded one of them, training their guns on the fore part of one of the ships, where the mutineers had shut themselves in. The captain of the ship mounted to the bridge with his officers as the threat to open fire was made. If the other ships fired, the captain would share the fate of his mutinous crew and his ship. There was a tense wait, and at the last moment the captain's steward persuaded the mutineers to come out. They were arrested and taken ashore, and in theory, the sortie could proceed.

But Hipper did not believe it would be possible to achieve anything with his crews in a semi-mutinous state, and the fleet was dispersed. By an enormous piece of stupidity, one of the squadrons was sent to Kiel, where the left-wing workers in the dockyard received it with open arms.

For a couple of days the admiral commanding at Kiel, who had led the *Göben* and *Breslau* when they made their famous escape to the Dardanelles, kept uneasy order, and then, suddenly, revolt was all over Kiel and in a few days, all over Germany; the Kaiser had abdicated and the Allied armistice terms accepted by Germany and signed.

These terms called for the outright surrender of all the U-boats and the internment of the best part of the High Sea Fleet—the ten best battleships, the five battle-cruisers, six light cruisers, and fifty of the best destroyers.

Shocked and heartbroken, the German officers set about restoring sufficient discipline to enable the fleet to be steamed over to the Firth of Forth, believing that by doing so they avoided an even harder peace treaty for Germany. When the terms of the Treaty of Versailles became known, it was seen that they called for the final surrender of the interned ships. The scuttling at Scapa Flow therefore took place. What was left of the navy, searching around for some shred of self-respect, however tenuous, chose to regard the scuttling as an act of redemption, but it was a poor enough consolation to the men who, while the pale waters of Scapa Flow were still littered by the wreckage of the old navy, went to work to build a new one.

REBUILDING BY VIOLATION OF TREATY

The work of re-forming the fleet began with the commissioning of a couple of elderly light cruisers (which survived to serve as ack-ack ships in the Second World War) and a fleet of minesweepers to clean up the thousands of mines which the Germans had laid from the White Sea to the Channel.

Within a few years the navy was beginning to get itself taken seriously again. Limited by the Treaty of Versailles to a total personnel of 15,000, it could pick and choose its men, which it did so thoroughly that it is said that every single man accepted for service on the lower deck was interviewed personally by one officer—a former boatswain of the Kaiser's yacht—who, against all traditions, had been commissioned by order of the All Highest.

As part of a general improvement of service conditions it was laid down that in the future identical food was to be served to officers and men, the ostensible cause of the first mutinies in the High Sea Fleet (in 1917) having been complaints about the difference in quality of food served in the wardrooms and on the mess decks.

Early it became clear that the Reichstag would not vote for full expansion to the limit permitted by Versailles, but a beginning was made with the construction of small cruisers and destroyers which, incidentally, were in all cases bigger than the limits laid down by the treaty. The first of the cruisers completed was named *Emden*, after the famous raider of the First World War. Under command of one of the ablest U-boat captains, Arnaud de la Périère, she set out on a series of public relations and training cruises throughout the world. The choice of the captain of the ship was significant, for Arnaud de la Périère, a German of French extraction, had been an officer

who even during the bitterest days of the unrestricted submarine warfare campaign of 1917-18 had been admired by his opponents, and who at all times was excellently qualified to represent the best type of German fighting man.

False statements as to the tonnage of the new ships were not the only violation of international law committed by the German navy in the twenties. All kinds of deceit were practiced, for instance, in such questions as reserve supplies of weapons. In theory these stocks were limited by the treaty, but in practice the limits were ignored. In 1925 the Inter-Allied Commission of Control was withdrawn from Germany—not because Germany had been disarmed, but because it was decided that the Allies should make a gesture of goodwill to Germany at the time of the signature of the Locarno Pact.

At the time a British member of the Commission told his German opposite number, according to Raeder:

“We must leave now, and you are glad that we are going. You did not have a pleasant task, and neither did we. I must tell you one thing. You need not think that we have believed what you have said. You did not speak a single word of truth, but you have given your information so skillfully that we were able to accept it, and for that I am grateful to you.”

In this somewhat equivocal way the Allies were satisfied, but there was a lot more to be done—and the Reichstag had to be duped as well. The annual ordeal of the passage of the Naval Estimates through a suspicious and semihostile House was made easier by the practice of vastly overcharging for all items of equipment and then using the difference between the true cost and the estimated cost for the financing of extramural activities.

For a time part of this work was in the hands of a Captain Lohmann who built himself up a considerable and very curious empire, each bit of which was designed to serve the purposes of naval expansion. There were dealings with banana plantations, as an excuse for the construction of banana-carrying freighters which could easily be converted into auxiliary cruisers, and with fishing companies so that trawlers might be used as minesweepers. There was a film company to make films to encourage recruiting; there was an air charter firm which provided planes for anti-aircraft target practice and the illegal training of naval flyers, and there was a salvage company which planned to raise sunken ships by freezing the sea in which they lay so that the resulting block of ice would come

to the surface, bringing the ship with it. There were other activities as well, but it is worth noting that although Lohmann handled vast quantities of money for which he never had fully to account, none of it stuck to his fingers, and when he died his widow had to borrow money to pay for his funeral.

Before his death, however, his activities led to a number of scandals, mostly in connection with films, and for the rest of the Weimar regime the German navy had to be more discreet.

In addition to obvious violations of the disarmament clauses of the Treaty of Versailles, the Germans also took quite legal measures to prepare for a kind of naval war in the future which was far beyond the capability of the Reichsmarine, as established in the twenties, to carry out.

For example, during the first deep-sea voyages of the training cruiser *Hamburg* and the surveying vessel *Meteor*, long-range wireless communications between Berlin and the most remote parts of the globe were thoroughly tested and excellent results obtained. This had not been possible during the First World War and had been a great handicap to the German raiders. As a result of the work done immediately after the First World War, however, a system of communications was worked out which was of great value to the surface raiders of the Second World War.

Despite the setback of the Lohmann affair, the German navy went on with its building program, and the laying down of the first of the pocket battleships led, in turn, to the building of heavier ships in France and in Italy at a time when elsewhere big-ship construction was at a standstill because of the disarmament treaties of Washington and London. It was a kind of chain reaction; because of the pocket battleships, the French built the *Dunkerque* and the *Strasbourg* much bigger, and because of the *Dunkerque* and the *Strasbourg*, the Italians built the *Vittorio Veneto* and the *Littorio* bigger still, and because of the *Vittorio Veneto* and the *Littorio*, the French built the *Richelieu* and *Jean Bart*—the Italians answered with the *Roma* and *Impero*, and the French came back again with the *Clemenceau* and the *Gascogne*. By that time war was at hand, and in the meantime at the expiry of the disarmament treaties, on December 31, 1936, Japan, the United Kingdom and United States had joined in.

It is a little difficult now to remember what a stir the pocket battleships made when they first appeared; there had been no such revolution in naval construction since the *Dreadnought*

had suddenly made all the battleships of the world obsolete. The principle behind the pocket battleships was that with a theoretical conformity to the maximum size permitted by the Versailles Treaty, of 10,000 tons, a ship was produced which could outfight nearly any ship in the world from which it could not run away—and there were only three ships from which it could not run away or could not outfight, the British battle-cruisers *Hood*, *Renown*, and *Repulse*.

The 10,000-ton limit was not really respected—the ships were actually about 14,000 tons, but the fact that on this displacement they mounted six 11-inch guns and that they had a speed of twenty-six knots was a *tour de force* for the German naval architects. That this was possible at all was due to the fact that the Germans deliberately sacrificed armor, so that when the *Admiral Graf Spee* of this class was caught off the River Plate in December 1939 she was put out of action by British cruisers armed only with 8-inch and 6-inch guns.

The other two ships of the same class were the *Lützow* (ex-*Deutschland*) and the *Admiral Scheer*.

When the design of the pocket battleship was first made public at the end of 1928, it was stated that the ship was designed to cover troop convoys between Germany proper and East Prussia in the event of a war between Germany and Poland. Even the most naïve could not help asking why for that purpose she was given a radius of action of 20,000 miles when the distance from Stettin to Elbing or Pillau was about 250 miles.

The first pocket battleship was known before she was launched as *Panzerschiff A* or *Ersatz Preussen*, was named *Deutschland* when launched, and then shortly after the outbreak of war was re-named *Lützow*. The last change of designation was made because Hitler thought that if a ship called *Deutschland* were sunk, it would have a grave effect on the morale of the German people. The laying down of this ship coincided with the appointment as Commander-in-Chief of the German navy of Erich Raeder.

From 1920 to 1928, the fleet had, in succession, been commanded by Admirals Behncke and Zenker. Behncke had held together the wreckage of the fleet, and begun to breathe new life into it; Zenker had followed and slowly got ships reconstructed, and crews trained and exercised. Then came Raeder, to begin a period of office which was to last over fourteen

years. No other head of an armed force has ever within recent years been at his post so long.

All three admirals who took command after the collapse were High Sea Fleet men. During most of the war Raeder had been Chief of Staff to Hipper, the leader of the battlecruisers from 1914 to 1918.

Since the war, Raeder had held various important shore appointments, but what had really given him a chance to force his ideas on the service was a spell of two years after the war, writing part of the German Official Naval History of the War at Sea. This was a formidable work, which has never been completed—fifteen volumes appeared before the outbreak of the Second World War and did not take the story beyond the spring of 1917. Raeder dealt with the operations of the German cruisers in the Pacific, Atlantic, and Indian Oceans. It had been a job which made him think much more oceanically than most of the rest of the German naval officers, whose horizons had tended to be limited almost literally by the North Sea and the British Grand Fleet.

Raeder had joined the navy, at the age of twenty, in 1897, the very year in which Tirpitz initiated his twenty-year program. He was to live through the vicissitudes of the building of both German navies, of both wars and of both defeats. At the Nuremberg trial he was sentenced to life imprisonment, a sentence which at the present time (May 1953) he is still serving in Spandau prison.

Watching him through the trial, one was struck by the air of complete incomprehension with which he seemed to follow the proceedings. Most of the other accused acted as if they understood quite well why they sat in the dock, but Raeder seemed simply puzzled. The trial, he seemed to be thinking, was all politics and politics were something about which he had never worried, so long as they did not prevent him from carrying on his work of building and running a navy—a task which he had performed with brilliance.

Raeder was in many ways one of Hitler's most intelligent advisers, but he never got on with the Führer in the manner that Dönitz did—probably because Hitler was a politician and politicians were beyond his understanding. Raeder could and did give good advice, but he could not get it accepted, for he lacked the power to persuade. Hitler did not like him and clearly was glad to see as little of him as possible.

Judged as a man, it must be said that he behaved in the

dock with dignity—it must also be said that he shared the great weakness of most members of the corps of senior German officers. If he could not do what he wanted in an orderly, legal manner, then legality went overboard. When he was accused at Nuremberg much was made of the fact that part of the charge against him was the drawing up of plans for the conduct of aggressive war, and it was said in his defense that it was the duty of commanders-in-chief to draw up or have drawn up plans for all kinds of emergencies.

That was true enough, but it left aside the point that not only were plans drawn up, but they were carried out, under Raeder's auspices and without his making even the belated protest of the generals and others who took part in the plot of July 20.

Before Hitler came into power, three out of the permitted eight pocket battleships had been laid down, five out of eight cruisers, and twelve out of sixteen destroyers. The sixteen torpedo boats also allowed had not been built, but clandestine experiments had already been begun with fast motorboats which were shortly to blossom forth as the E-boats, which for five years harried British coastwise shipping. Already too, experiments had begun abroad with submarines, so that technicians, officers, and crews kept in practice until the time came when Germany could build submarines for herself again.

In the case of the submarines, the procedure had been for a group of former German naval officers to open an office in Holland as naval architects; orders for submarine designs were received from minor navies and the prototypes of Germany's new submarine fleet were laid down in Dutch, Finnish, and Spanish yards—for the Turkish and Finnish navies. This was all quite legal, and it meant that when Hitler gave the order, it was possible to begin immediately with the prefabrication of submarine parts which, within weeks, were openly assembled as finished boats, with trained crews, as soon as the disarmament clauses of Versailles were officially abrogated.

It was known before Hitler came to power that he was in favor of the rebuilding of the navy, but when the time actually came he was extremely cautious. Two more pocket battleships were ordered in 1934; first they were increased in size to provide for extra armor, so that their theoretical displacement of 10,000 tons was to be raised to about twice that figure; then Hitler agreed to give the ships extra speed and three more 11-inch guns, and when the ships were actually completed they

displaced 31,000 tons (though they were officially stated to be 26,000 tons). These two ships were the *Scharnhorst* and *Gneisenau*.

The reason for this caution was that Hitler was first concerned to assure Germany's supremacy on the continent of Europe; he wanted a navy just big enough to help him in this, but not big enough to arouse British anxiety. At this stage of his planning he looked forward to Britain standing quietly by while he organized Europe under his own rule; then, after Europe, it would be the turn of Russia, and then, after that . . .

As the situation developed according to Hitler's plans, so did the German naval program. First came the Anglo-German naval agreement of 1935, which fixed the tonnage of the German surface fleet at 35% of the British; it took Germany four years to build up to this figure, and as soon as the limit was reached, Hitler at the end of April 1939, just after the launching of the *Tirpitz*, tore up this treaty as he had already torn up the Treaty of Versailles, and moved on to the construction of more and bigger ships.

The *Scharnhorst* and *Gneisenau* were obviously a stop-gap type; for the first real capital ships of the German navy Hitler was anxious to build at once vessels of 80,000 tons, armed with nine or twelve 20-inch or 21-inch guns, on the lines of the type which the German naval command had decided was the ideal ship of the future, immediately after Jutland.

Nothing approaching this size had ever been built anywhere, and German shipyards had launched their last big warship as far back as 1917. It was found quite impossible to jump the gap from the 31,000-odd tons of the *Scharnhorst* to Hitler's 80,000 tons, so the next ships—which were the *Bismarck* and *Tirpitz*—were designed at 42,000 tons. Again the Germans cheated, and for treaty purposes returned the displacement of the two ships at 35,000 tons each, the limit to which they had agreed, together with all the other big naval powers.

From the *Bismarck* and *Tirpitz*, the Germans went on to ships of 56,000 tons with eight 16-inch guns; two ships of this type were actually laid down in 1939 and not definitely canceled until two years later, when the Russian campaign and the submarine-building program claimed all priorities.

From these ships it was proposed to go on to 80,000 tons and finally, the height of the *kolossal* in naval architecture was reached with a design for a ship of 144,000 tons, full load, with a speed of thirty-four knots and eight 19.75-inch guns,

but that design was so far off realization that it may be regarded simply as a piece of dreaming by a naval architect on a grandiose scale.

As it was, when the *Bismarck* and *Tirpitz* were completed, they were the biggest ships in the world. They were afterwards exceeded a little in size by the American battleships of the *Missouri* class and then exceeded a great deal in size by the Japanese battleships *Yamato* and *Musashi* of 72,800 tons, full load, with nine eighteen-inch guns.

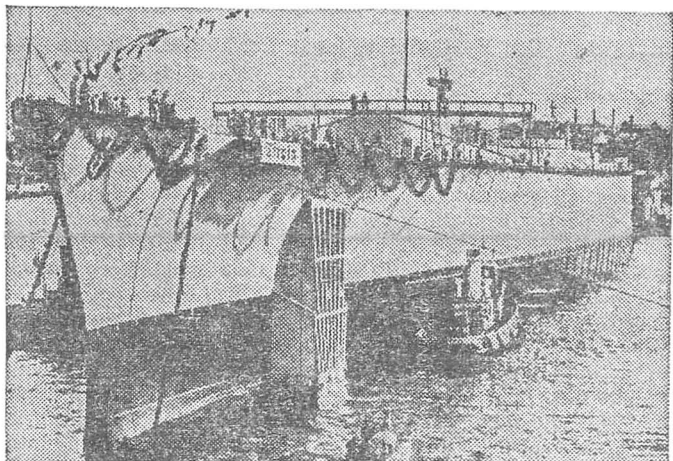
These two Japanese ships had short and unhappy lives, but the amount of punishment which they suffered before they were finally lost shows clearly the advantage of the great displacement which Hitler and his advisers were so anxious to attain. The *Musashi* was sunk in the battle of Leyte Gulf in October 1944, but only after she had been hit by between eighteen and twenty-two torpedoes and sixteen bombs, while the *Yamato*, making the last sortie of the war by a Japanese heavy ship (with her oil tanks only partly filled, and that by borrowing from the rest of the fleet), was set upon off Okinawa in April 1945 by some four hundred American carrier-borne planes and finally sunk after ten to twelve torpedoes and four bombs had hit her.

It was the 56,000-ton design which was intended to provide the backbone of the fleet that Raeder was building; *Tirpitz* and her predecessors were to be the second string, for when Raeder, in February 1939, finished tinkering with his Plan Z for the reconstruction of the German navy it was made up as follows:

- 6 battleships, 56,000-tons type
- 2 battleships, 42,000-tons type
(*Bismarck* and *Tirpitz*)
- 2 battleships, 31,000-tons type
(*Scharnhorst* and *Gneisenau*)
- 3 battle-cruisers, 31,000 tons
(six 15-inch guns)
- 3 pocket battleships
- 2 aircraft carriers

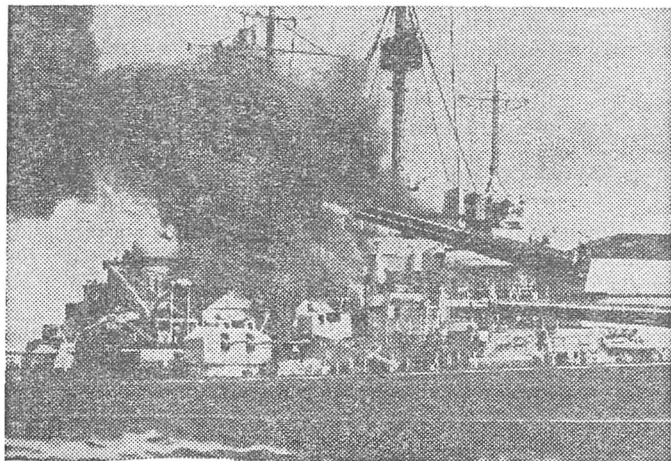
together with cruisers, destroyers, and 126 submarines.

The foregoing were all to be ready by the winter of 1944-45. A supplementary program of aircraft carriers, cruisers, and



The beginning. *Tirpitz* decked out with garlands and pennants just after her launching at Wilhelmshaven, early in 1939. She was Hitler's pride and marked Germany's return to big-navy status.—*Wide World*

In action. *Tirpitz* firing her after battery of fifteen-inch guns.—*Imperial War Museum*



submarines was to be finished by the end of 1948, but it was in 1944-45 that Raeder considered that he would be ready to take on the British navy. Before this time, according to Hitler, war with Britain need not be expected.

But by 1944-45 Raeder said, "The prospect of defeating the British fleet and cutting off supplies, in other words, of settling the British question conclusively, would have been good."

It is not possible to say what would have been the exact British reply, from the point of view of naval construction to the execution of Plan Z, but in the field of capital ships the situation is fairly clear. In 1939 Britain had fifteen capital ships, of which the five units of the *Royal Sovereign* class at least would have been obsolete by 1945. In addition, Britain would have completed five ships of the *King George V* class of 35,000 tons, and four ships of the *Lion* class of about 45,000 tons. The last of these would probably have been ready in 1944, and there might have been other ships, laid down in 1941 and ready in 1944-45, once the size of the German naval construction effort had been seen. But whatever happened, we would not have had much to spare, for against thirteen modern German capital ships, we would have had ten obsolete ones, and somewhere between nine and thirteen new ones.

The dangers of this situation would have been increased by the strategy which Raeder intended should be used. The fleet was to be divided into three groups; first, the smallest battleships—*Scharnhorst*, *Gneisenau*, *Tirpitz*, and *Bismarck*, would be retained in home waters, to pin down a proportion of the British fleet; then the battle-cruisers, the pocket battleships, cruisers, and carriers would be let loose on the trade routes; this in turn would lead to our dispatch of heavy ships and cruisers to hunt them down, and our hunters, according to Raeder's plan, would be hunted in their turn by the six battleships of 56,000 tons, organized in two groups. These ships were to have Diesel engines, and consequently an enormous radius of action which would make refueling unnecessary for weeks at a time. In the meantime, an all-out U-boat campaign would be launched by about two hundred boats.

In addition to his own ships, Raeder expected to have the co-operation of the Japanese and Italian navies. In the emphasis which his plans laid on ocean warfare may be seen the fruit of his thought and work on the history of the cruiser campaigns in the 1914-18 War, and altogether, his plan and the

means at his disposal were formidable; but there was one glaring miscalculation.

Raeder believed that Britain would sit passively by and watch all her European allies, including France, overwhelmed by Germany, so that at the end she would be alone to face the powers of the Berlin-Rome-Tokio axis; such a miscalculation seen by itself seems of titanic proportions, but it has hitherto been lost sight of among the other mountainous mistakes made by the German leadership as it prepared for the conquest of Europe.

When war with Britain did come in 1939, contrary to Hitler's assurance, first that it would not come, and then that it need not come, Raeder was almost pitifully far from his thirteen capital ships and his 250 submarines, the latter total his goal for 1948.

Of the capital ships only *Scharnhorst* and *Gneisenau* were ready, with three pocket battleships, seven cruisers, some destroyers and fifty-seven submarines. Raeder wrote on September 3, 1939:

"The surface forces . . . are so inferior in number and strength to those of the British Fleet that, even at full strength, they can do no more than show that they know how to die gallantly."

Dönitz, then commanding all U-boats, surveying the future of that arm two days previously, had been as pessimistic:

"Incisive measures will be necessary in many departments if, in future conflicts with England, we want to stand forth with a really effective U-boat arm."

He had reached this conclusion after calculating that Germany would need three hundred submarines capable of operating in the Atlantic and that in fact only twenty-six such craft were available.

In addition to not having the ships to face Britain, the German navy was also without plans. What plans had been made had been based on the assumption of a war with Poland, with almost no fleet and almost no coast, and, more remotely, with France. No preparation had been made for war with Britain, and all that could be done was to send the available U-boats and two of the pocket battleships (*Deutschland* and *Admiral Graf Spee*) to sea, to do what damage they could, though at first the surface ships were restrained by orders not to engage Allied merchant vessels.

The reason for this was that Hitler still suffered from the delusion that if Britain and France were not provoked, they would make peace with him as soon as they saw that there was nothing that they could do to help Poland.

HITLER'S "ZONE OF DESTINY"

On the night of January 16, 1942, *Tirpitz* left her home port of Wilhelmshaven forever. For six months she had been undergoing trials and adjustments and winterizing to fit her for service in the Arctic; now her destination was Trondheim in Norway, via the Kiel Canal. She was so big that taking her through the Canal was something of a risk in itself, but if she did not go through this back door into the Kattegat and then into the Skagerrak she would have to pass the Swedish coast in daylight, and that would mean exposing herself to the gaze of a clandestine British coast-watching service which the Germans believed to have been responsible for the early detection of the *Bismarck* on her one and only trip into the open sea.

The loss of the *Bismarck* had really been the end of the great days of the big German surface ships acting as commerce raiders, and the *Tirpitz* would now never have the chance that the *Scharnhorst* and *Gneisenau*, the pocket battleships, or the *Hipper* had had. Most people on board must have appreciated that, as she headed northward, but for the time being these depressing thoughts were blown away by the fact that the *Tirpitz* was a full-fledged ship of war at last.

Full-fledged, with a crew of 2,500 men, an armament of eight 15-inch guns, and twelve 5.9-inch, eighteen 4.1-inch, sixteen 37-millimeter and fifty 20-millimeter machine guns, a total anti-aircraft armament of eighty-four guns. Her side armor at its thickest was fifteen inches, which was just about as thick as anything in existence. Its strength was never to be tested, but her armored deck of a combined thickness of eight inches was proved strong enough to keep out any bomb then in existence, and it was to protect her for a long time to come.

This main armored deck was low down in the ship, about level with the waterline, and covered her magazines and engine rooms. Above, on the upper deck, was a thinner layer of armor to detonate bombs before they could burst inside the ship.

A refinement of the German optical industry was a superb range-finder with the theoretical ability to measure distance up to 100,000 meters; this was really already nearly obsolete, for as the Germans had learned from the *Bismarck* action, that sort of thing was done very much better and over very much greater distances by radar. But throughout the war, the long-distance radar of the German surface ships was inferior to the British, partly at least because the type of gear used by the British could be easily modified and improved, while the German pattern was not capable of such change without the reconstruction of the whole set. German shortcomings in this respect were surprising, for they had been early in the field with the development of radar for fire-control purposes.

The decision that *Tirpitz* should go to Norway on her first voyage had been taken, or at least ratified, by Hitler at his meeting with Raeder, Keitel, and Jodl on the previous November 13. It was based on two considerations; first, there was Hitler's anxiety lest the British carry out a landing in northern Norway, and second, the shortage of oil fuel which made it impossible for her to be sent out into the ocean as the other big German ships had been. These two circumstances meant that the *Tirpitz* was to spend her entire life on the Norwegian coast, first at Trondheim and then, later on, at Altenfiord near the North Cape, some five hundred miles farther north.

The same factors that caused the decision to be made to station the *Tirpitz* in Norwegian waters also led to the decision to bring the *Scharnhorst*, *Gneisenau*, and *Prinz Eugen* back from Brest and send them to Norway as well.

The *Prinz Eugen* had gone to Brest immediately after she had escaped from the pursuers of the *Bismarck*, and the other two ships had put in there in March 1941, after a two months' cruise of 18,000 miles, during which they had sunk twenty-two ships totaling 116,000 tons.

This was the heyday of the German surface raiders. In addition to the tonnage sunk by the *Scharnhorst* and *Gneisenau*, the *Hipper* and *Scheer* had sunk 71,000 tons in the

first three months of 1941, and auxiliary surface raiders 114,000 tons. During the same quarter sinkings by U-boats amounted to 554,000 tons.

The results of this cruise of the *Scharnhorst* and *Gneisenau* showed clearly the strength and weakness of the big ships as commerce raiders. Lessons learned from the cruise and the loss of the *Graf Spee* and the *Bismarck* may have had as much to do with the decision not to send the *Tirpitz* out into the high seas as had the other factors in the situation.

The *Graf Spee* had left Germany a few days before the outbreak of war, and then waited for orders in the South Atlantic; it was not until mid-October that Raeder ordered her to be fully committed, for up to that time Hitler still believed that Britain and France would make peace. When the ship did begin her attacks she confined herself to individual merchant ships, so as not to run the risk of being confronted with warships escorting convoys. By the end of November it was decided that the *Graf Spee* would have to return home for repairs, but before he went her commander, Captain Langsdorff, a chivalrous and energetic officer, wished to make one big attack, at least, against the River Plate, a focal point of British trade. To do this he was willing to risk whatever Allied warships might be there guarding the convoys.

Accordingly, the *Graf Spee* sank one last ship—the *Doric Star*—off the coast of Africa, and headed straight for the Plate. Sticking to his post despite the German fire, the *Doric Star's* radio operator had given the alarm; that alarm was picked up by Commodore Harwood, commanding the British forces in the South Atlantic. Harwood knew that once the alarm was given, Langsdorff would have to leave the area in which he was working, and as far as Harwood was concerned there were three areas to which the *Graf Spee* could go and do harm: off Rio de Janeiro, off the Plate, and off the Falklands, on the way to Cape Horn.

Harwood's cruisers were spread over 2000 miles. He made some calculations on a leaf torn from a signal pad which is still preserved among the treasures of the Imperial War Museum in London, and gave orders for his three available cruisers to concentrate off the Plate. Accordingly, *Ajax*, wearing the Commodore's broad pendant, her sister ship *Achilles* of the Royal New Zealand Navy, and *Exeter* met at the designated spot.

Langsdorff sank his last ship; it brought his total bag for three months of war to nine ships of 50,089 tons, and then, at first light, December 13, he sighted the British warships and steered to attack them in the belief that they were a British cruiser and two destroyers escorting a convoy. The three British ships in fact totaled some 23,000 tons against the *Graf Spee's* 14,000, but their combined armament was only six 8-inch and sixteen 6-inch guns against the six 11-inch and eight 5.9-inch guns of the German; neither side carried any significant amount of armour, but the British ships were five or six knots faster. The theoretical side of the problem was fascinating, the kind of thing that is gone over time and again on paper in staff colleges, each student putting forward his ideas of what ought to be done.

What actually happened was that as soon as Langsdorff saw what he was up against, he made off at full speed toward the neutral waters of the Plate, for he knew that his enemy would be able to follow him all day long if he fled and able to avoid him if he turned back to fight it out.

The British followed in hot pursuit, the *Exeter* on the port side of the enemy, and the other two to starboard, so that Langsdorff had to split his armament to fire on both sides. The first part of the chase lasted about two hours; by the end of that time, the *Exeter* had withdrawn from the fight, badly damaged, and the *Ajax* had five of her 6-inch guns out of action. In addition, both *Ajax* and *Achilles* were within measurable distance of running out of ammunition, so that their best chance now of disposing of the enemy was at night, with torpedoes and their remaining guns—but night was a whole long day away. Accordingly the British ships fell back, out of range but still within sight.

All day the chase into neutral waters went on. Langsdorff too was running short of ammunition; worse still, one of the British shells had blown a hole about six feet square in the *Graf Spee's* side, forward, near the waterline, so that there could be no question of his heading back to sea and trying to shake off the enemy in the darkness, for at high speed or in a heavy sea the forepart of the German ship would soon be flooded. Therefore he went on to Montevideo, which he reached that night. After a last desperate exchange of signals with Berlin, Langsdorff blew up his ship rather than let it be interned and then took his own life.

The wreck of the *Graf Spee* was broken up bit by bit,

and part of it, months later, was used to repair a British armed merchant cruiser, damaged in action with another German raider.

The *Bismarck's* cruise was originally planned for April, 1941, and it was first intended that she should be joined in the Atlantic by the *Gneisenau*. However, after the latter ship had been put out of action by the R.A.F. in Brest, it was decided that the *Bismarck*, flying the flag of Admiral Lütjens, should be accompanied by the *Prinz Eugen* alone. Later on, a full-scale attack would be made by the *Bismarck* and *Tirpitz* working together. In the meantime, it would be the duty of the *Bismarck* to deal with the escorts of any convoy met with, while the *Prinz Eugen* attacked the merchant ships; the *Bismarck*, however, was strictly enjoined to run no risks.

The sailing of the *Bismarck* and *Prinz Eugen*, in the event, had to be postponed for a month because of engine trouble aboard the latter ship; this was disappointing from the German point of view because in May there would be much more daylight in high latitudes and consequently greater difficulty for the Germans in escaping unseen into the Atlantic.

Eventually the two ships sailed; U-boats and supply ships had already been disposed in the Atlantic to support them. On their way through the Baltic they were sighted and reported to the British naval attaché in Stockholm.

It was then appreciated in London that they were in all probability heading for the Norwegian coast and that any fiord or channel on that prodigiously long and indented coastline might shelter them.

In the nick of time, and in bad weather, they were found and watched, and then their disappearance was reported. The British Home Fleet under Sir John Tovey immediately was split into two groups designed to cover either passage leading past Iceland from the north into the Atlantic. There were four capital ships, in two pairs, the *Hood* and *Prince of Wales* between Iceland and Greenland, and the *King George V* (Admiral Tovey's flagship) and *Repulse*, with the aircraft carrier *Victorious* at Scapa Flow ready to operate between Iceland and the Faroes. At this moment there were eleven British convoys at sea in the North Atlantic, and to protect them warships were ordered to regroup all over the North Atlantic: including, from Gibraltar, the battle

cruiser *Renown*, the carrier *Ark Royal*, and the cruiser *Sheffield*.

The German ships were picked up by two of Admiral Tovey's cruisers, the *Norfolk* and *Suffolk*, at the edge of the ice pack, northwest of Iceland, and followed down south by radar, which the Germans did not know was used by the British for tracking purposes.

The *Hood* and the *Prince of Wales*, directed by the cruisers, steamed up from the south to intercept the enemy, and met them fair and square, on the morning of May 23. An action began, and in a few minutes the *Hood*—for years the largest warship in the world, but of 1916 design—was hit and blew up; the *Prince of Wales*, brand new and not yet completely fit to fight, was damaged and had to fall back to join the cruisers which continued their tracking. Admiral Tovey moved his ships over the two million square miles of the North Atlantic in order to make another interception.

Then the German ships separated, the *Prinz Eugen* making off unseen to a rendezvous with an oil tanker and then going on to Brest a few days later. *Bismarck*, however, had no time to waste meeting her oilers or leading her pursuers through a U-boat concentration as had been planned. She had been damaged in her fight with the *Prince of Wales* and had lost a couple of knots speed, together with about 2000 tons of oil fuel which, escaping from damaged tanks, trailed for miles across the sea behind her, plainly visible from the air. This loss of oil meant that she had to make for a French port as soon as possible.

On her way she was attacked by planes from the *Victorious* and torpedoed once, but without any serious damage being done. And when the British lost touch with the enemy, at three o'clock on the morning of May 25, it seemed as though they might have lost it for good. There was the whole North Atlantic to be searched and the ships of the Home Fleet were running short of oil; Admiral Tovey had to face the fact that the search might have to be given up.

Then, twenty-four hours after the *Bismarck* had been lost, an RAF plane picked her up and the planes from the *Ark Royal* were sent in to attack. A gale was blowing and during the operations which followed the flight deck of the carrier was rising and falling through fifty-six feet. In the meantime the *King George V's* fuel got lower and lower and when the Swordfish torpedo planes finally took off from

the *Ark Royal*, Admiral Tovey's flagship was within nine hours and ten minutes of having to turn back. The Swordfish headed out for the *Bismarck*, sighted the British cruiser *Sheffield* and attacked her by mistake; no damage was done, but it meant that the planes had to return to the *Ark Royal* to re-arm. Four and three-quarter hours before the *King George V* would have had to leave the scene of action, the Swordfish took off again, and this time the *Bismarck* was hit well and truly. Her rudder was jammed and she was out of control, being forced around into the teeth of the north-westerly gale, heading away from home, while a diver tried to repair the damage.

Now the Allied surface ships could catch up with her. First came the destroyers—four British and one Pole—and then the *King George V*, the battleship *Rodney* which had been escorting a convoy, and the cruiser *Dorsetshire*. With shells and torpedoes they finished off the German ship, which after taking an unprecedented amount of punishment finally turned over and sank with almost everyone on board, her flag still flying. It was then 10:37 A.M. on May 27.

In the first place, the big ships had been ordered not to attack convoys, for they were almost certain to be protected by heavy ships. A lucky hit from the big guns of a British ship might easily mean that the German vessel would have to return immediately to port. The consequence of this order was that the only ships that could be attacked, as a rule, were merchant ships traveling alone, and it was really not worth while sending out two battle-cruisers to attack solitary merchantmen, mostly empty, for a single U-boat could have done it better. Throughout, Admiral Lütjens, who commanded the *Scharnhorst* and *Gneisenau* on this cruise and who shortly afterwards lost his life in the sinking of the *Bismarck*, showed the greatest caution.

The outstanding example of this occurred when prior to an attack on a convoy protected by *Ramillies*—a ship of the weakest and slowest class of British battleships—the *Scharnhorst* maneuvered to lure the British vessels away from the convoy, believing that the *Gneisenau* would take advantage of this to close the merchant ships and set about their destruction. Instead, Lütjens in the *Gneisenau* ordered both ships to withdraw at once.

Similar nervousness was shown by the *Gneisenau* when engaging a small defensively equipped Danish freighter, the

Chilean Reefer of some 1,800 tons. The German ship allowed herself to be so overawed by the freighter's single small gun that she stood off and fired at the Dane over seventy 11-inch shells before sinking her; an expenditure of ammunition out of all proportion to the value of the ship sunk.

The end of this cruise, which had covered the North Atlantic from Denmark Strait to the Cape Verde Islands, came when the *Scharnhorst* had to go to Brest for a partial retubing of her boilers, and the *Gneisenau* went with her. The engine- and boiler-rooms of the big German ships gave endless trouble throughout this period; on the one hand, German marine engineers had had no experience for years in the design of high-power machinery for warships, and on the other hand, they were anxious to try all sorts of short cuts to solve the fundamental problem of high-sustained horse-power and low fuel consumption. Certainly their efforts at the beginning were far from successful; of the twenty-two original destroyers, for instance, there were never more than eleven available at any one time, and from time to time this figure dropped as low as four.

In designing their new-type boilers, first tried out in Hitler's yacht, the *Grille*, the Germans were clearly on the right lines, but they were trying to do too much too quickly. This was, of course, a state of affairs which threw much light on the unwillingness of German naval constructors to go straight from the 14,000-ton pocket battleships to 80,000-ton megalliths which Hitler wished to build.

Before the *Tirpitz* actually sailed for Trondheim, Raeder, Hitler, and others had met again, and Raeder explained what he hoped to get from the *Tirpitz's* move.

The ship's strategic function, said Raeder, would be "to protect our position in the Norwegian and Arctic areas by threatening the flank of enemy operations against the northern Norwegian areas, and by attacking White Sea convoys," and "to tie down heavy enemy forces in the Atlantic so that they cannot operate in the Mediterranean, the Indian Ocean, or the Pacific."

This, Raeder went on, would be done to some extent by keeping the *Tirpitz* ready for action in Trondheim but, he added oracularly, "the operational objective can be attained fully only by actual operations." Possible "actual operations" might include attacks on the White Sea convoys on their

way to north Russian ports from Britain or Iceland, attacks on enemy shipping in the White Sea itself, the bombardment of points of military importance, and a general heading called "interference with enemy operations."

It was of these possible enemy operations in Norwegian waters that Hitler was most apprehensive. At this same meeting with Raeder, on December 29, 1941, he said:

"If the British go about things properly they will attack northern Norway at several points. By means of an all-out attack with their fleet and landing troops, they will try to displace us there, take Narvik if possible, and thus exert pressure on Sweden and Finland. This might be of decisive importance for the outcome of the war"; the latter is an early admission by Hitler that any outcome of the war was possible other than the complete German victory which he had several times already proclaimed.

We now know that Mr. Churchill was very nearly in complete agreement with Hitler on the importance of Norway, and that he was constantly harrying his service chiefs to prepare the wherewithal for a landing there.

In the meantime, Hitler ordered that the big ships at Brest should be sent to Norway.

Accordingly, Operation Cerberus, the famous dash up the Channel, took place. The execution of Cerberus was a very smart feat of arms which took the British public, though not the Admiralty, completely by surprise.

The leading part in keeping the British navy informed of the doings of the three ships was played by members of a French resistance group, admitted to the dockyard at Brest by German orders.

What happened was that Raeder, having only half a surface fleet of his own, was most anxious to build up good relations with Darlan and the officers of the French navy who were under orders from Vichy. Sooner or later, the German admiral hoped, the French and German navies would be fighting side by side against Britain. Accordingly, Raeder tried to persuade Hitler to be lenient with France, an endeavor in which he made no progress, and at the same time to do what he could to improve relations between the two fleets.

In this attempt, the lynch-pin was that same Arnaud de la Périère whom we met before as captain of the *Emden* on her first round-the-world voyage. Once again it was his duty

to represent the best side of the German navy; unfortunately for his own country he was killed in an air crash in the winter of 1940-41 before he had been able to make much progress with his plans.

What he had done, however, was to propose to some surprised French naval officers that they help in the running of the dockyard, together with their men, who would otherwise have been sent to German prison camps. The Frenchmen asked permission of Vichy and received it. One of them, Lieutenant Philippon, was put in charge of some allotments whose produce was intended to augment the rations of the Germans, and he informed Colonel Rémy, one of General de Gaulle's most redoubtable agents in Occupied France, of the situation.

There were also two other resistance networks in Brest, one of which was speedily discovered by the Germans following a café brawl between Germans and French dockyard workers. The other network, led by Madame Leroux, the widow of a French naval officer, communicated directly with London through a local doctor. Philippon's transmitter was at Saumur, worked by a former petty officer named Anquetil.

Philippon watched the three German ships, while the Luftwaffe, which in the German system of things was responsible for the flak defenses of the port, raised the number of anti-aircraft guns to 1,350, of which 150 were heavy.

The German ships stayed on at Brest. First the *Scharnhorst* needed to retube her boilers, then the *Gneisenau* was torpedoed from the air, then the *Prinz Eugen* was hit by a bomb, and finally the *Scharnhorst* was hit as soon as her re-tubing refit was completed.

All these things and many others Philippon reported, while the inhabitants of Brest suffered terribly from the bombs of the R.A.F. which missed their targets.

After the *Scharnhorst* was hit on July 24, the Gestapo tracked down Anquetil, the radio operator, and carried him off. Rémy went to Saumur and then met Philippon. Both knew what the Gestapo did to its prisoners; Rémy asked Philippon if he thought that Anquetil would speak. If he were to speak, Philippon's only hope was to make for the Unoccupied Zone—which from where they were meeting was only 150 yards distant.

But Philippon was sure that Anquetil would not speak, and returned to Brest to continue his work.

Anquetil did not speak.

Philippon reported the stages reached by the German ships as they finished their repairs and got ready for sea, while Madame Leroux's organization reported that the German air-fields were at an unusual state of alertness.

The three ships prepared to sail, and one of the French tugs which were being used in harbor succeeded in holding up the whole operation by accidentally-on-purpose getting one of the *Prinz Eugen's* propellers tangled in a line just as she was starting out to sea.

So Cerberus began. It was an operation which it ought not to have been possible for the Germans to carry out at all, even granted that they met with good luck; but in fact the consequences for the Germans were much less favorable than appeared to us at the time.

The decision to go through the Straits of Dover was made because the three German ships had been laid up for nearly a year and their crews were not in a state of training to undertake the long voyage to Norway via the Atlantic and past the patrols which reached from Scotland to Iceland and from Iceland to Greenland. Furthermore, once the intention of the enemy ships to go back to Germany by that route was known, it would be easy to concentrate the Home Fleet between them and their base. So the move through the Straits of Dover was made. In preparation for it the Germans had swept and buoyed channels from Brest up to German waters, so that the big ships could make their best speed and not be tied down by minesweepers, whose rate of sweeping would be too slow. But the minesweepers did not sweep all the mines, for the *Scharnhorst* hit two and the *Gneisenau* one. The force was commanded by Admiral Ciliax in the *Scharnhorst*; when she was mined he transferred his flag to a destroyer and carried on. Later, in the darkness, he went back to look for his flagship drifting hopelessly, almost in a sinking condition. The ship was not to be found and over the water hung the smell of oil fuel that had leaked from her tanks, so that the Admiral and his staff believed for a moment that the ship had sunk. However, *Scharnhorst's* hour had not yet come, and she reached Wilhelmshaven out of the war again, this time for over a year. Thanks to the defects of her machinery, bombs, and mines, the Channel dash was the only warlike activity of the *Scharnhorst* between March 1941 and March 1943. The *Gneisenau* had even less luck. Mined

in the course of *Cerberus*, at the selfsame spot off the Dutch coast as *Scharnhorst*, she went to Kiel to refit, and there on March 26, 1942, was terribly damaged by the R.A.F., almost the entire forepart of the ship being destroyed. She was taken to Gdynia (temporarily bearing its Nazi name of *Gotenhafen*) and reconstruction work began. Her 11-inch turrets were removed and used for coast defense on the Atlantic Wall, one going to the Hook of Holland, and the others to Norway. It was intended to replace them in the ship with twin 15-inch turrets which had been prepared before the war for the re-arming of both *Scharnhorst* and *Gneisenau*, but by the end of 1942 the German position in terms of raw materials and labor was so bad that the work was abandoned. This decision, it will be seen, was to some extent strengthened by the unfortunate outcome, for the Germans, of the convoy action on New Year's Eve 1942, when a group of five British destroyers successfully stood off the attacks of the *Lützow* and *Hipper*.

With *Scharnhorst* and *Gneisenau* both in dockyard hands, the only survivor of the *Cerberus* trio was the *Prinz Eugen*, and a few days later she, in turn, was put out of action, for on her way from Kiel to Trondheim she was torpedoed by the British submarine *Trident* and lost about twenty feet of her stern together with her rudder.

This meant that the *Tirpitz* alone of the German heavy ships was left in fighting trim, supported by the pocket battleships *Lützow* and *Scheer* and the cruiser *Hipper*, sister of the *Prinz Eugen*, and somewhat the "weak sister" of the German big ships, because of her faulty machinery and extravagant rate of fuel consumption.

Tirpitz was now ready, and the concern of the British Admiralty, which had been gradually growing, about the ship, became immediate anxiety. As far back as the previous August, Sir Dudley Pound, then First Sea Lord, had been making his dispositions to cope with the *Tirpitz*. He appreciated that it was necessary to maintain two ships of the *King George V* class available at all times, to match the single German ship, on account of her greater size and power. And two *King George V*'s ready at one time meant that three ships of the class had to be kept in home waters, in case one of them was damaged by torpedo, bomb, or mine, or was in need of refitting.

Why this was so, the First Sea Lord explained:

"If the *Tirpitz* did manage to break out, she would paralyze our North Atlantic trade to such an extent that it would be essential to bring her to action at the earliest possible moment." And Mr. Churchill commented, "It exercises a vague general fear and menaces all parts at once. It appears and disappears, causing immediate reactions and perturbation on the other side."

So plans had to be made to deal with her in case she did come out into the Atlantic or attack the convoy routes to Russia.

On January 25, 1942, Mr. Churchill wrote to the Chief of Staffs Committee:

"The presence of *Tirpitz* at Trondheim has now been known for three days. The destruction or even the crippling of this ship is the greatest event at sea at the present time. No other target is comparable to it. She cannot have ack-ack protection comparable to Brest or the German home ports. If she were even only crippled, it would be difficult to take her back to Germany. No doubt it is better to wait for moonlight for a night attack, but moonlight attacks are not comparable with day attacks. The entire naval situation throughout the world would be altered, and the naval command in the Pacific would be regained.

"There must be no lack of co-operation between Bomber Command and the Fleet Air Arm, and aircraft-carriers. A plan should be made to attack both with carrier-borne torpedo-aircraft and with heavy bombers by daylight or at dawn."¹

The *Tirpitz* had already had a decisive effect on the war in the Far East. When things had become difficult with Japan, it was decided to send as strong a force as we could spare to Singapore. It was to be formed of two capital ships, *Prince of Wales* and *Repulse*, and an aircraft carrier to provide fighter cover. There were at this time five first-class British aircraft carriers, any one of which would have done the job; but two of them, *Formidable* and *Illustrious*, were repairing in America after damage which they received from German bombs earlier in the year, the third ship was the *Ark Royal*, sunk by a German submarine in November, and the fourth was the *Indomitable*, which damaged herself by running aground while on her trials in the West Indies. That left only the fifth ship, *Victorious*, which had to be retained in home

¹ *The Second World War*, Volume 4, page 98.

waters specifically to watch the *Tirpitz*. So the *Prince of Wales* and the *Repulse* sailed without fighter escort and were both sunk by Japanese planes a few hours after war began.

If the *Tirpitz* could do that much merely by sitting in a Norwegian harbor, it did not take much imagination to guess what might happen if she got out on the high seas.

As the Admiralty looked at the situation, it was at once clear that there was one thing we could do to cripple her if ever she did come out. Outside Germany, in occupied Europe, there was just one dry dock big enough to hold her, and that was at St. Nazaire on the French Atlantic Coast. It was to St. Nazaire that the *Tirpitz* would have to head sooner or later if ever she got out into the Atlantic, always provided that the dry dock was still in existence. A few weeks later it no longer was in existence, and the Commander-in-Chief, Plymouth, Admiral Sir Charles Forbes who had been in charge of the St. Nazaire raid, was writing to the Admiralty:

"I regard the attack on St. Nazaire as more difficult than that on Zeebrugge, as a large, weakly armed force had to make an undetected passage of over four hundred miles to the scene of the action at an average speed of eleven and a half knots, through an area usually covered by the enemy's air reconnaissance. . . . The principal object of the attack was achieved, as the large lock, capable of taking the *Tirpitz*, should be out of action for a considerable time."¹

The dry dock was the biggest in the world, measuring over 1,400 feet by 165 feet, and had been specially built to accommodate the liner *Normandie*. It was in the form of a lock (hence the use of that word by Admiral Forbes) leading from the estuary of the river Loire into the Penhoet Basin, one of the principal docks of the port. The other big basin was in process of being fitted with bombproof U-boat pens.

To destroy the dry dock, it was planned to blow up the gates which stood between the dock itself and the river, and to land Commando parties to destroy the machinery used in the working of the dock pumps, winding gear, etc., as well as any other useful targets in the immediate dock area. But the principal target was to be the lock gates, and after some thought it was decided that the best way of destroying them was to ram them with an old ship, which would have a spe-

¹ Supplement to *The London Gazette*, September 30, 1947.

cial three-ton demolition charge in its bows to explode by means of a time fuse after the ramming had taken place.

The blowing up of the gates would make it impossible to use the dock and would not only deprive the *Tirpitz* of a base, but also make St. Nazaire of much less value as a port to any other ships, including submarines.

The ship selected to ram the lock gates was the *Campbeltown*, one of the famous fifty destroyers transferred to the Royal Navy by the United States in 1940 in return for naval bases in the Western Atlantic and Caribbean. She was roughly camouflaged as a German torpedo boat, two funnels being removed and the shape of the other two altered.

Escorting the *Campbeltown* in to St. Nazaire would be sixteen motor launches, twelve of which were to carry the Commandos and four, which would have torpedoes, to be used against any enemy surface ships that might be sighted on the run in. An extra motor torpedo boat was attached to the party with orders to torpedo the lock gates if anything happened to the *Campbeltown* before she reached her target. A motor gunboat was sent along as headquarters ship and two Hunt class destroyers, *Tynedale* and *Atherstone*, were the "heavy" support, while the submarine *Sturgeon* was to be at the mouth of the port to guide the expedition in to the right channel by means of a flashing light.

The whole affair was under Commander R. E. D. Ryder, with Lieut.-Col. A. C. Newman leading the Commandos and Lieut.-Commander S. H. Beattie commanding the *Campbeltown*.

The first difficulty was to reach St. Nazaire, in view of the fact that it was necessary to get there by steaming parallel to the enemy coast all day in full view of any German aircraft that happened to be on patrol.

The first part of the voyage was comparatively easy and the force behaved as if it were on a normal antisubmarine sweep. Falmouth was left on the afternoon of March 26. By seven o'clock on the morning of the 27th, the force was southwest of Brest and the moment had come to turn east and then northeast toward St. Nazaire. The German flag was then hoisted in the destroyers, a perfectly legitimate proceeding according to the laws of war, so long as they did not open fire while it was flying.

At the last moment before sailing, air reconnaissance pictures had shown that four German torpedo boats had moved

into berths at the exact spot which Colonel Newman had selected for the headquarters of his Commando operations.

Early on the morning of the 27th a U-boat was sighted by the *Tynedale*, which re-hoisted the White Ensign and attacked it. It dived, got away and subsequently reported to St. Nazaire, but only said that it had seen "two destroyers steering south-west" which the Germans did not consider to mean that anything in particular was about to happen. The day was overcast, which made it more likely that the force would not be sighted, and at nightfall the final stage of the journey began, with all ships steering straight for St. Nazaire.

A raid of seventy Wellington bombers began at the moment when the ships might be heard or seen by the enemy. All German attention was thus attracted upwards, and the British ships came on.

After midnight the ships passed over the mudflats at the mouth of the river, the tide being propitious, and then they passed the lighthouse in the middle of the stream within two miles of the port.

They were in the river, unseen, with no booms and no minefields between them and the lock gates. They went on past the principal searchlight tower. It was 0122, and according to plan they were eight minutes away from the target. Suddenly a single searchlight was switched on. This must have been a signal, for every searchlight in the harbor concentrated on them.

Somebody challenged from the shore. A signalman specially chosen for his knowledge of German Morse flashed a reply; it was a Luftwaffe signal, but it puzzled the Germans and they held up the order to open fire. When fire was opened, *Campbeltown* signaled in German that two ships damaged by hostile action requested permission to enter harbor immediately.

Firing stopped. Then it started again from the south bank of the river, and once again, still steaming for the lock gate, the *Campbeltown* made the signal about the two damaged ships. Once again firing ceased, and the *Campbeltown* kept on toward the lock gate.

There were six minutes to go when the Germans finally opened up with everything that could be brought to bear. The surface of the water was flooded with light, the sky torn with flares and tracers. Flames burst from the *Campbeltown's* sides as she was hit again and again. . . .

She caught fire in her engine room, as she increased speed to eighteen knots for the last few yards. All the British ships fired on each searchlight and gun emplacement as they passed, with their automatics, putting several out of action.

There was a boom just across the entrance to the lock gates; the *Campbeltown* went through it as though it had not been there. Then she hit right in the middle of the gate amid flames, sparks, smoke, and general battle wrack. She stuck in the hole that she made and the crew and the Commandos scrambled ashore.

Now the attention of the Germans was concentrated on the M.L.'s. These tiny little wooden craft loaded with gasoline for the long journey out and home were supposed to put the Commandos ashore, wait for them to do their work, and then get them away again.

But very few of the M.L.'s or the men did get away. In the starboard column, the first boat was hit and beached, and the second and third lost their way, then came back and landed their men, who were, however, driven back to the boats which then withdrew. The fourth boat was hit and caught fire, the fifth was likewise hit, but was able to get away, while the sixth, despite the fate which had befallen her five predecessors, went in, landed her troops, and then went off to pick up the *Campbeltown's* people. On the way she disappeared and was never seen again.

Of the port column, the first boat caught fire, the second had a breakdown of her engines, the third landed her troops but sank, the fourth withdrew, and the last three boats in the column were unable to get their parties ashore.

From the boats that were sunk or set on fire, Commandos in many cases swam or waded ashore and joined in the fighting that was going on round the docks. This fighting, it will be remembered, had for its first object the destruction of the lock-gate machinery.

The German defense was tenacious, and when the Commandos attempted to withdraw, it was found that the M.L.'s had sunk or been driven off. Colonel Newman bravely started to lead **what men** he could into the town with the idea of breaking **out into** the country beyond, so that individually the men could **make their way** to Spain. In fact only three succeeded in doing this, the rest being either killed or taken prisoner.

Campbeltown herself did not blow up until eleven o'clock

next morning, when a number of senior German officers were on board inspecting her. Altogether some sixty officers and 320 men were killed by the explosion, and fighting broke out in the town, started by panic-stricken German soldiers opening fire on their own men, the khaki-clad Todt workers, whom they mistook for British soldiers.

In this confusion the French resistance fighters joined without orders, and it is estimated that four hundred of them were killed.

The British casualties were extremely heavy. Six hundred and thirty men were committed, and 403 failed to return. Of these, 144 were killed. Eighteen British coastal craft had entered the river, ten were sunk by enemy fire, four were so badly damaged that they could not get home and had to be scuttled, and the remaining four returned with the supporting destroyers, which had remained off the mouth of the river, to Plymouth.

The Germans made the best use they could of the rounding up of the Commandos from the point of view of propaganda and tried to represent the affair as a British reverse, but the Commandos had only been a sideshow, and the dock for the *Tirpitz* was out of action.

Just after a fortnight later, on April 13, Raeder met Hitler and an inquest was held on the raid, the Grand Admiral taking advantage of Hitler's concern at its outcome to blame the British success on the lack of patrolling aircraft which otherwise would have been able to spot the British force on its way in. In addition, his King Charles's head—that is, the lack of a trained naval air arm—was also recalled. For the shortages of everything Göring was blamed. One of the lessons which Raeder stressed was that the attack had shown clearly how exposed was the German-held coastline, with the corollary that increased resources had to be employed in its protection.

The lock was still out of action at the end of the war when it was learned, incidentally, that Darlan at a dinner party given in Paris had told Admiral Schultze, the German admiral commanding in France, that the dock at St. Nazaire was unsuitable for use by a ship as big as the *Tirpitz*. It would only be possible to get her in, said the French admiral, under ideal conditions of tide and wind, and then it might be impossible to get her out again.

The attempt to take a battleship into St. Nazaire would

be equivalent to the certain loss of the ship for a year, he said. Quite why Darlan gave this advice is one of the subsidiary puzzles of the main mystery of the character and plans of this man, but it is significant that at a meeting a few weeks later between Raeder and Darlan, the latter made reference to a plan for the creation of a European fleet. It has always been suspected that somewhere at the heart of Darlan's ambition was the vision of himself as Commander-in-Chief of a European fleet. Thus he could avenge himself on Britain for a series of events beginning with the killing of an ancestor at Trafalgar, passing through a supposed lack of politeness shown him in London during the coronation of King George VI, and ending with the crippling of the French fleet at Oran by the British in July, 1940.

Hitler had got the *Tirpitz* to Norway—to what he called the "zone of destiny." There now arose the question of using her. Shortage of fuel oil ruled out excursions into the Atlantic of long duration, but the climate and geography of the area presented the Germans with an excellent opportunity of interfering with a major Allied operation of war, the passage of the convoys to north Russia from Britain and the United States.

Allied help to Russia, which had begun with a small convoy of seven ships in August 1941, had by now greatly increased. Large convoys were sailing at least twice a month from British ports, and Hitler by now realized that such aid to Russia would seriously affect the war on the Eastern Front.

The convoy of August 1941 was numbered PQ 1,¹ and it contained the first drops of what was to become a vast torrent of 4,000,000 tons of military supplies sent to the Soviet Union via the Arctic Ocean. Seven ships (six British and one Russian) carried to Archangel sixty-two aircraft, thirty-two vehicles, and 15,000 tons of stores.

By the end of the year, forty-three more ships had followed, carrying 752 tanks, 799 fighters, 1,404 vehicles, and more than 100,000 tons of stores.

None of the Allied vessels were lost; Hitler and the OKW were so confident of a quick and complete success in Russia that they had paid little attention to the successful beginning

¹ PQ convoys were those bound for Russia, QP those returning westward.

of the operation of pumping new lifeblood into the arteries of the Russian war machine, which was beginning to need it badly after the great battles of the first six months following the German invasion.

Neglect by the Germans of opportunities to interfere with the North Russian convoys went on until the spring of 1942, by which time thirteen convoys in all had got through—with 103 ships, of which only one had been sunk, the *Waziristan*, torpedoed south of Bear Island by a U-boat; this was the first time that German submarines had appeared in these waters, and the *Waziristan* fell an easy prey, as the escort provided for her and another merchant vessel, comprising two mine-sweepers, failed to find the ships which it was supposed to protect.

The U-boats were then the German first line of offense against the convoys; they were to be followed speedily by surface ships and by aircraft.

The *Waziristan* and her companion had been numbered convoy PQ 7A; it was followed by PQ 7B, which arrived safely—originally both components of PQ 7 had been intended to sail together, but most of the ships had been delayed, and accordingly the two vessels ready soonest had been sent on by themselves.

For PQ 8, the next convoy, the U-boats were waiting, reinforced. They torpedoed a merchant ship, which did not sink, and the destroyer *Matabele*, which did, only two members of her crew of approximately two hundred being saved.

The U-boats as they concentrated off the north coast of Norway had their work simplified for them in these early months of the year by the ice conditions which forced ships bound to and from Archangel or Murmansk to pass close to the German bases; at the same time, bad weather and darkness which had proved valuable cover during the winter against air attack gave place to conditions of early spring.

This entailed a strengthening of the British escorting forces; originally minesweepers and an occasional destroyer had been sufficient, but it was soon clear that the entire resources of the Home Fleet might be required to assure the passage of a convoy, in the same way that the convoys to Malta from Alexandria and Gibraltar had come to need the full support of whatever forces could be gathered together in the Mediterranean from capital ships and carriers downward.

The usual procedure for the north Russian convoys was

that the Home Fleet itself would give distant cover, ready to intervene if the German heavy ships came out; nearer the convoy would be a cruiser squadron, while the close escort of convoy actually sailing with it, and disposed to protect it from the threefold menace of surface ships, aircraft, and U-boats, would be composed of one or two cruisers, with destroyers and escort vessels.

In the early part of 1942 it was not possible for these convoys to receive air cover until they were within operating radius of the land-based Russian fighters, for there were not enough aircraft carriers available. Thus, before the protection of the Russian air force could be reached, there was a bare stretch of some five hundred miles in which the convoy was exposed to enemy air attack without any defense except anti-aircraft guns.

The convoy route itself started either from Scotland or Iceland and headed away to the northwest, keeping as far as possible from the enemy-held coast as ice conditions would allow. From a spot southeast of Jan Mayen, a desert island of volcanic rock at the entrance to the Greenland Sea, the convoy turned east, passing south of Bear Island, and at longitude 30° E. headed south toward Murmansk, or to Gorlo Strait, leading from the Barents Sea into the White Sea. It was in the stretch between Jan Mayen and Bear Island that the danger from German surface ships was most feared.

Once the vessels of the convoy had reached Russian waters their choice was between the harbors of Murmansk and Archangel. Murmansk was closer and is on the open sea, but it was closer to the enemy as well and suffered much from German bombing. On the other hand, the entrance to the White Sea froze hard during the winter; it was possible that ships might be frozen in for months on end, while the luckier vessels might take up to sixteen days to steam 150 miles to Archangel behind icebreakers working at full power. It was not only the ice stretching solidly down from the Pole or blocking the entrance to the White Sea that presented dangers and difficulties; in addition, all the way from Iceland to the North Cape icebergs and huge floes measuring several miles in area could be met with. In the autumn there is fog in these waters, and at the end of December fierce gales blow for four or five days on end.

The varying conditions of wind, sea, ice, and daylight all

had their effect on the running of the convoys, on their attack, and on their defense.

When it was known that the *Tirpitz* had reached Trondheim, followed by the *Scheer* and *Prinz Eugen* a month later, Admiral Sir John Tovey, who at that time commanded the Home Fleet, asked for four more destroyers to give the covering force an adequate screen, and the convoy a close escort of two destroyers.

As much oil as possible was sent from Germany to Norway for the *Tirpitz* and her consorts, and the Allied convoys became a target of high priority for both the German navy and the Luftwaffe.

Acting on Raeder's belief that all forces available should unconditionally be used for the disruption of the shipment of supplies to Russia or to prevent enemy landings, *Tirpitz* with *Lützow* was sent to sea from Trondheim on March 4.

German aircraft had reported an enemy convoy of fifteen ships near Jan Mayen Island, heading for Russia. The *Tirpitz* sailed to intercept and at one point got to within about eighty miles of the convoy, which was diverted northwards to take it as far away as possible from the enemy. (The perpetual presence of the ice barrier always interfered with these diversions.) At the same time the British covering force, comprising the whole Home Fleet, with which was the *Victorious*, was also close at hand, so that the convoy, the British fleet, and the *Tirpitz* were all together within about ninety miles of each other—and for a while neither side knew that the other was there, for the weather was bad, with fog and snow.

The German battleship, however, did see and sink a straggler from a convoy of empty ships going from Russia to Iceland. The straggler's S.O.S. got through, and the British fleet anticipated that as a consequence of her presence being known, the *Tirpitz* would at once head for home. Accordingly it maneuvered to cut her off. Instead of going home, however, the German ship continued to look for the main body of the convoy from Russia.

Not finding the *Tirpitz* where they expected she would be, the British turned away. Then, despite horrible weather, the German ship was sighted on March 9 within fifty miles of the Norwegian coast, too close to home to be intercepted by surface ships, but within range of the aircraft from the *Victorious*. These took off, and found her.

Just as they were taking advantage of cloud cover to get into the most favorable position for an attack, the cloud was blown away, and the planes revealed to the eighty-four anti-aircraft guns of the enemy. The planes attacked with torpedoes as best they could and, at a disadvantage, were unable to secure any hits.

On the bridge of the *Tirpitz* was Admiral Ciliax, still commanding the battleships of the German fleet, and the commander of the ship, Captain Topp. In the midst of the British attack the German admiral suddenly ordered the ship's helm to be put hard astarboard; Topp interrupted him, countermanded his order, and put the helm hard aport. Then he announced firmly that he commanded the ship and that the admiral did not.

As soon as she was sighted by the planes of the *Victorious*, *Tirpitz* gave up her original intention of making for Trondheim and took shelter at Narvik, continuing to Trondheim a few days later.

There, in the sheltered waters, she carried out exercises. Anything more ambitious was forbidden for the time being at least by the need to save fuel. The last sortie had used a total of 8,100 tons of oil, and it had been one of the signs that the enemy was stepping up his attacks on the north Russian convoys.

Thus, on the new northeast passage to Russia, intensified enemy action was added to the dangers of winter weather, which in these latitudes makes life on board ship a constant strain.

Even on days when there is no wind—and they are few and far between—the cold gets through all the clothes one can put on. You can wear six pairs of socks and four or five sets of thick underwear and you still shiver. Icicles form on your nose, your chin, and your ears. Oilskins freeze solid, and it is impossible to touch metal without heavy gloves, for fear of ice burns.

In addition there are snowstorms and blizzards, which black out whatever daylight there may be, and everything is about ten times worse. Even the comfort of spirits is in part denied, since it is necessary to water the rum ration, because in that cold, the drinking of even standard grog gives intense pain.

Simple existence in these conditions is as unpleasant and as difficult as anything one can imagine, but the ships have to be worked, and that at times is nearly impossible. Seas

freeze solid on the decks and in the rigging. Even with steam pipes the ice cannot be got rid of, because as soon as it is melted by the steam, it freezes again almost at once, and picks and shovels must be used to break it up. And while that is being done sweat freezes on the body and the spray freezes in the air. Towing gear kept ready in case a ship was hit and needed help to reach home, in bad weather froze into a solid block of ice which could be about twenty feet long and six feet square.

Raeder was quick to draw his conclusions from the fiasco of *Tirpitz's* first sortie, and on March 12 pointed out to Hitler what had been wrong.

"This operation reveals the weakness of our own naval forces in the northern area," he said. "The enemy responds to every German sortie by sending out strong task forces, particularly aircraft carriers, which are the greatest menace to our heavy ships. The extreme weakness of our defenses is evidenced by the fact that the enemy dares to advance in the coastal waters of the northern area without being smashed by the German air force. Our own defensive forces (destroyers and torpedo boats) are so few in number that our ships are always extremely hard pressed whenever they come in contact with the enemy."

Raeder went on to say that strong support of the fleet by the Luftwaffe in Norway was absolutely essential so long as the German navy did not possess any aircraft carriers. This air support should be used both for reconnaissance purposes and for torpedo attack on Allied ships.

Moreover, he added, it was clear that the Allies attached such importance to the convoys, and their escorts were so strong, that the Germans stood no chance of making any impression on them unless they committed all the ships they had. This, said Raeder, was particularly true so long as the enemy used carriers.

Bearing this in mind, and also the overriding importance of preventing an Allied landing, Raeder decided that the big German ships should not be committed until the exact position and strength of the enemy on each occasion had been determined and until it was certain that sufficient support had been provided by the Luftwaffe. On these occasions, the Luftwaffe's first target was to be the Allied carriers. Suc-

cess in this direction would fundamentally improve German prospects.

Finally, said Raeder, work on Germany's one and only aircraft carrier would have to be completed and suitable carrier-borne aircraft provided.

Hitler listened to all this and agreed with Raeder. The aircraft carrier was urgently needed, and he said that he would tell Göring so. Everything would be done to form the biggest available task force as quickly as possible, made up of *Tirpitz*, *Scharnhorst*, one aircraft carrier, two heavy cruisers, and twelve to fourteen destroyers.

Raeder had had endless trouble over naval air forces with Göring ever since the latter had taken over the naval air service and incorporated it in the Luftwaffe, and he knew that he was bound to have a great deal more, so that he pressed Hitler once again to order Göring to increase the Luftwaffe strength in Norway. Raeder also asked, apparently having abandoned hope of doing it successfully himself, that it should be explained to the Reichsmarschall just how important the question of air support was to the fleet in Norwegian waters and to the German plan of campaign for the war as a whole. Hitler agreed to back the Navy's case, and orders were given to finish the construction of Germany's single aircraft carrier.

This ship, the *Graf Zeppelin*, had been launched at the end of 1938 and was still unfinished in 1942 while the navy and Luftwaffe fought over her.

Originally, together with her sister ship, never launched, she was designed for commerce raiding. There was the additional consideration that, since the German navy had never possessed an aircraft carrier, it was very anxious to build at least one or two for experimental purposes. As early as October 10, 1939, Hitler proposed that the ship be canceled and her material used for the submarine building program, but he was persuaded by Raeder to allow work to continue.

In the following April, however, it was Raeder himself who proposed that the ship be stopped. It would be impossible, he said, to finish her before the end of the year, and another ten months would be required before her anti-torpedo and anti-aircraft armament was ready, for the guns originally intended for the ship had been taken for coast defense purposes to Norway.

Hitler in reply said that he believed aircraft carriers would

not be of any use so long as they were equipped only with internal-combustion-engined planes. Presumably, he was thinking of a time when it would be possible to use warships for the discharge of V-weapons.

It was decided, in April 1940, that the *Graf Zeppelin* should be stopped; in July of the same year it was decided that her construction should be resumed, as well as that of two of the 56,000-ton battleships, and of the three battlecruisers that had been part of Plan Z. In addition a cruiser with a flight deck was to be begun.

Work was continued on all these ships, except the cruiser with the flight deck, until Hitler's invasion of Russia. Then work stopped finally on all of them except the *Graf Zeppelin*, which was left in a state of suspended animation. In May 1941, Raeder had reported that there was still eight months' work required on the ship, and that trials would take an additional year. Once again Raeder had asked Hitler to see that Göring kept his promise to supply the planes which the ship would need.

In November 1941, the Luftwaffe announced that the planes would not be ready before the end of 1944 at the earliest. Hitler contented himself with saying that he wanted the work on the carrier continued and that he was sure that the Luftwaffe would be able to convert land planes which could be used for carrier operations temporarily.

In April 1942, Raeder made a further gloomy report on the ship. Her hull could not be finished for over a year, two years would be necessary to build and test catapults for launching aircraft, and the company responsible for the construction of the arrester gear could give no undertaking as to when it would be ready. Moreover, even if the ship were ready by the end of 1943, only thirty-two planes (ten converted fighters and twenty-two converted bombers, also to be used as reconnaissance planes) would be available. There would be no torpedo planes. If a special type of carrier-borne plane was to be developed, it would take until 1946 (four years from the time Raeder was speaking) to put it into mass production.

Once again the Commander-in-Chief of the navy got Hitler's agreement to the completion of the carrier and the creation of a naval air force. In addition he secured approval for the conversion of the liners *Europa*, *Potsdam*, and *Gneisenau* and the cruiser *Seydlitz* to aircraft carriers. But three years later

at the end of the war none of the steps ordered had resulted in anything concrete having been achieved.

It has been thought worth while describing at some length the morass of confusion which suffocated the *Graf Zeppelin* and the German naval air force, first, because of its direct bearing on the fortune of the *Tirpitz* and the other German surface ships, and second, because it throws a blinding light on the utter inefficiency with which the Germans from time to time conducted naval affairs.

Even Hitler was not able to overcome Göring's stone-walling tactics, so great was the Reichsmarschall's preoccupation with the private war which he and the Luftwaffe were waging.

The *Graf Zeppelin* at this stage disappeared from the records of Hitler's conferences with his naval officers. Some of her equipment was sent to Italy to be fitted in two big passenger liners, the former *Roma* and *Augustus*, which were being converted into carriers, and the ship herself lay for three more years at Stettin until she fell into the hands of the Russians. What has happened to her since is not known.

With the gradual fading of the prospect that the ship might be finished went the end of any hope that Germany, while the war was still on, would possess a balanced striking force however small. All through the war Hitler had fought his surface warships piecemeal; this was partly, of course, because he had so few, but there is no indication that he ever realized what he might have been able to gain through the operation of a balanced fleet rather than of individual ships.

It is clear from the proceedings of Hitler's conferences, first with Raeder and then with Dönitz, that nobody ever made him realize that the operation of seapower was a continuous process, rather than an affair of cruises and raids, which came to an end when ships were sunk or returned to harbor. Nor did he ever seem to realize that the different types of surface warships had not been invented out of caprice, and that all of them were essential to the efficient operation of a fleet.

FIRST BLOOD

The convoys which the *Tirpitz* had tried to attack at the beginning of March had been PQ 12 and QP 8; these had been the first to receive cover from heavy ships. Starting with these two convoys, it had been arranged that a convoy should sail at the same time from each end of the run, and pass each other roughly midway, so that they could be covered simultaneously by the Home Fleet.

The next pair of convoys, PQ 13 and QP 9, sailed on March 20 and 21 respectively; there had been a delay of forty-eight hours because U-boats had been reported on patrol at the entrance to the Kola Inlet. Each convoy was composed of nineteen ships, and their antisubmarine escorts could not be considered strong; PQ 13 had two destroyers, a minesweeper and two trawlers, while QP 9—made up, like all the QP convoys, of empty ships—had only one destroyer and two minesweepers. In addition one cruiser accompanied each convoy and a third was available west of Bear Island, in support.

It was not, however, until PQ 13 had passed Bear Island that it was spotted by the enemy, who then started dive-bombing attacks which sank three ships. That was on March 28. On the next day three German destroyers appeared out of the mist, disappeared, and reappeared again. For a few moments the British cruiser *Trinidad* and the destroyer *Eclipse* were able to open fire, and one of the German destroyers (Z 26) was sunk and the other two damaged. But before the enemy was driven off the *Trinidad* was torpedoed and the *Eclipse* had two guns put out of action—half her main armament. At the end of this engagement the position was that the *Trinidad* and the *Eclipse* were both damaged, bad weather

had scattered the convoy, and it was known that at least nine U-boats were at sea in the area.

However, fourteen of the straying ships reached port safely; it was presumed that the missing two were torpedoed and sunk.

QP 9, on the other hand, made a safe passage, two U-boats being sunk by its escort.

The scale of the German attacks showed the urgent need for more Allied escort vessels; extra destroyers and corvettes were promised and a mission from R.A.F. Coastal Command sent to north Russia to help organize the Russian air cover.

Summer and continuous daylight were at hand, so that conditions for air operations would improve from the German point of view, and at the same time the ice would not have melted sufficiently to permit any considerable rerouting of the convoys away from the German bases.

However, the urgency of the position on the Russian front was such, as will be seen, that Mr. Churchill and President Roosevelt were determined to accept great risks in an attempt to get the convoys through.

The *Tirpitz* did not appear at this time, partly at least due to the shortage of fuel oil. As we have seen, the first sortie which she and her escorts had made used up 8,100 tons, and it was not until July that the German naval staff (the SKL or *Seekriegsleitung*) had succeeded in scraping together 16,000 tons more, enough to permit of another trip to sea by the big ships.

The arithmetic of the Axis oil situation was simple. The total requirements of the German and Italian navies were 200,000 tons per month. The total monthly supplies were 84,000 tons (partly from Rumania, but the greater proportion from German home production). There was thus a shortage of 116,000 tons per month, and the total reserves of Germany and Italy combined were only 410,000 tons, or less than enough for four months at the rate of consumption which was then current. Accordingly, in December 1941 the oil quota for the German navy had been cut by fifty per cent, a step which Raeder described as an intolerable restriction on the mobility of his ships.

The position as regards Diesel oil for submarines was less drastic, and although they were consuming up to 20,000 tons per month by January 1942, a figure which went on increas-

ing by 2,000 tons per month, Raeder at this time was confident that he could meet all his requirements for this type of fuel.

In the meantime a good deal had happened.

On the night of April 27/28 R.A.F. Bomber Command took a hand with a raid on the *Tirpitz*.

The plan was for a high-flying force of Lancasters to go in first, to distract and to try to silence the enemy flak by bombing it, as well as the *Tirpitz* herself as she lay near Trondheim. Immediately afterwards, if possible so quickly that the Germans would not have time to cover the ship with a smoke screen, a low-flying force of Halifaxes was to follow, flying between and below the cliffs, dropping mines and depth charges, which it was hoped would either fall directly into the water around the ship or hit the mountain-side and roll down into the fiord.

The weather was ideal, with a clear sky over the target and a bright moon. The Lancasters achieved complete surprise. The smoke screen had not begun, and the flash of bursting bombs lit up the ship.

Then came the Halifaxes under Wing-Commander Bennett, who afterwards became Air Officer Commanding Bomber Command's Pathfinder Force, and an Air Vice-Marshal.

The Halifaxes dived to within two hundred feet of the sea. There was violent firing from both sides of the fiord, and guns fired from above as well as below. The smoke screen filled the gulf between the cliffs so quickly that the later crews couldn't see the ship, but as they looked back they saw black smoke rising through the white smoke of the screen.

Five aircraft did not return from the operation; one of them was Bennett's. It was hit several times by flak, an engine caught fire, and the crew bailed out. Bennett landed among some trees and gave a shout in the hope that some of the crew would hear. The wireless operator answered at once and came toward him. Just as they met a German soldier appeared on skis with a rifle. At that moment some other members of the crew started to call, and the German dashed off to round them up. When he had gone about two hundred yards, Bennett and the wireless operator made off. They ran for five hours, through deep snow across desolate country until it was dark. Eventually, walking across bad country in

soft snow, they escaped into Sweden and got back to the United Kingdom.

The *Tirpitz* was not damaged by this attack. The bombs missed, while most of the depth charges were caught in trees and behind rocks on the mountainsides.

Meanwhile the convoys had gone on.

PQ 14 of twenty-three ships and its reciprocal QP 10 of sixteen ships sailed on April 8 and 10 respectively. The PQ convoy ran into heavy pack ice southwest of Jan Mayen, and fourteen of its ships turned back; one was sunk by a submarine east of Bear Island and eight got through. A number of vessels of the escort were damaged by ice. On its way back from Russia, QP 10 lost four ships.

The sinking of these ships held up supplies to Russia, just when the Germans were advancing toward the Volga and the oil fields of the Caucasus, and this caused a very serious dispute between Stalin and the Western Powers, while apart from actual losses the difficulties of getting the convoys through were also causing delays. Ships loaded with material for Russia were queuing up for escorts.

A couple of days after PQ 15 and QP 11 had sailed with their respective twenty-five and seventeen ships President Roosevelt wrote to Mr. Churchill, on April 30, saying that between that date and June 1, 107 ships would be loaded in the United States and the United Kingdom for Russia, and that in his opinion the most important task for which the Allied naval escort forces in the Atlantic could be used would be to see that those 107 ships sailed.

Mr. Churchill replied that the task the President had proposed was impossible to fulfill, and added that the difficulty was as much due to "surface ships of high fighting quality as to submarine and aircraft."

At this stage Stalin took a hand, writing to Mr. Churchill:

"I have a request for you. Some ninety steamers loaded with various important war materials for the U.S.S.R. are bottled up at present in Iceland, or in the approaches from America to Iceland. I feel it incumbent on me to approach you with the request to take all possible measures in order to ensure the arrival of all the above-mentioned in U.S.S.R. in the course of May, as this is extremely urgent for our front."

To this Mr. Churchill replied:

"We are resolved to fight our way through to you with

the maximum amount of war materials. On account of the *Tirpitz* and other enemy surface ships at Trondheim, the passage of every convoy has become a serious fleet operation. . . . We are throwing all our available resources into the solution of this problem, have dangerously weakened our Atlantic convoy escorts for this purpose, and, as you are no doubt aware, have suffered severely.”¹

The experiences of PQ 15 and PQ 16, together with that of their reciprocals, QP 11 and QP 12, proved the justice of the Prime Minister's claim. Just about every available warship took part in the operation of getting the convoys through. The covering force was provided by two battleships, one British and one American (*King George V* and *Washington*), the *Victorious*, one British and two American cruisers, and ten destroyers (four of which were American). PQ 15 had as close cover the cruiser *Nigeria* and two destroyers, with four more destroyers, one anti-aircraft ship, and three minesweepers as escorts. One of the merchant ships in the convoy was equipped with a catapult for flying off an aircraft.

The westbound convoy, QP 11, which sailed on April 28, was escorted by a similar force—five destroyers, five corvettes, and two trawlers. The 10,000-ton cruiser *Edinburgh* was the close cover. Five submarines were stationed along the probable routes of approach of German surface craft. Thus there were two convoys of forty-two ships, protected by two battleships, one aircraft carrier, five cruisers, one A.A. ship, twenty-one destroyers, three minesweepers, two trawlers, and five submarines—forty ships of war in all, and each one desperately needed somewhere else in the war at sea. A proportion of them would have been needed, of course, under any circumstances to deal with German light surface craft, submarines, and aircraft, but the biggest concentration—the Home Fleet, with which American ships were working for the first time—was in Arctic waters instead of being in the Mediterranean, the Indian Ocean, or the Pacific simply because the *Tirpitz* was in Arctic waters too and might come out.

In judging the size of the effort and sacrifice represented by gathering this fleet together, it should be remembered that at this time, the spring of 1942, the American fleet had not recovered from Pearl Harbor, and the fate of India and Australia was still in the balance. The fate of Malaya,

¹*The Second World War*, Volume 4, pp. 230-233.

Burma, Indonesia had already been decided by lack of sea power and lack of aircraft; the ships needed to defend the Far East were kept in home waters by the threat of the *Tirpitz*. The planes were sent to Russia. There was no question that the decision to do this was right. It was an eminently statesmanlike decision; it was not, however, a selfish one.

As soon as PQ 15 and QP 11 were sighted by the enemy they were attacked by planes, destroyers, and submarines. Partly because of shortage of oil it was decided to hold the *Tirpitz* in reserve, and see how much damage could be done by the small ships and aircraft.

First blood went to the U-boats, which, guided by spotting planes, were able to torpedo the *Edinburgh* when the QP 11 was two days out from Kola Inlet. The cruiser's stern was blown off, and she started back to Murmansk under tow.

It had always been realized that something of this sort might happen. The existence of the German surface ships made it necessary for our surface ships to sail through waters in which fifteen or so U-boats might be operating at the same time and where German aircraft could do all the spotting they wished, provided the weather was favorable. At the same time, the Allied escort vessels were handicapped by the slow speed of the convoys and the need to stay with them always. This made long U-boat hunts impossible, though in any case these would have been difficult because of the need to save fuel on the 1,200-mile journey between Iceland and Murmansk.

After the *Edinburgh* had turned back, torpedo aircraft attacked the convoy. They were beaten off and their places taken by three large enemy destroyers. Now the *Edinburgh's* twelve six-inch guns would have been invaluable, for the German destroyers had 5- or 5.9-inch guns against the British vessels with 4- or 4.7-inch. Despite this the Germans were driven off from the convoy, only to reappear against the *Edinburgh* herself, crippled and under tow by a Russian tug, while two British destroyers, *Foresight* and *Forester*, with a Russian destroyer and four British minesweepers covered her as best they could.

What followed was what they liked to call in Nelson's day "a smart action." Time and time again the enemy destroyers tried to close with the *Edinburgh* to finish her off. The *Foresight* and *Forester* one after the other were hit and stopped dead temporarily, but by the time the second was stopped the first could move again, so that one was always able to cover

the other. The minesweepers with their single 4-inch guns also succeeded in keeping the enemy at arm's length. *Edinburgh*, no longer in tow, and out of control, circled miserably around at eight knots.

It was three days since she had been hit; since then there had been no electric light and no heat in the ship, her screws were dropping out of her damaged bottom, and her gunnery-control gear was out of action. The only 6-inch turret which could still be fought was trained by hand: the captain of the ship, shouting orders to the lieutenant in charge of the turret, was standing with his head and shoulders sticking out of the roof of the turret.

All this and much else during these three days was well done; a German destroyer, the *Hermann Schoemann*, was sunk and the other two damaged, but one torpedo got through and hit the *Edinburgh*. She had to be abandoned and was later sunk by the *Foresight*, which had worked so hard to protect her. Two officers and fifty-six men were lost.

On the credit side was the important fact that only one ship in QP 11 was sunk. In addition, all the German destroyers in the far north were now sunk or out of action, so that for the time being it was no longer necessary to risk cruisers to protect antisubmarine escorts against German surface ships.

PQ 15 coming in the other direction lost three ships to a storming attack by six torpedo bombers which suddenly appeared from only 6,000 yards away and pressed home with great determination.

Reference has been made to the need for keeping at least three battleships with the Home Fleet to deal with the *Tirpitz* in case one of them was damaged; this in fact happened, on May 1, when the flagship *King George V* collided in a fog with the destroyer *Punjabi*. The destroyer sank, and as she went down her depth charges exploded, so badly damaging the *King George V* that she had to return to port. Her place as flagship was taken by the *Duke of York*.

Having sunk the crippled *Edinburgh* with destroyers, the Germans now did the same thing to the *Trinidad* with aircraft. The *Trinidad*, after temporary repair of the damage she had suffered in March, sailed for the United States on May 13, and on the next day aircraft found her southwest of Bear Island and hit her. The damaged ship burned for three hours and then had to be sunk. Eighty-one lives were lost.

A final German air attack took place over 350 miles from

the nearest Luftwaffe aerodrome, which meant that German planes now had the radius of action necessary to attack convoys at any time during five days of their passage.

This threat the Germans backed up by moving the pocket battleships *Lützow* and *Scheer* from Trondheim to Narvik. At this latter port they were much better placed to make a foray against the passing convoys.

This naturally made things even more difficult, for Admiral Tovey had come to the conclusion that "it was most undesirable to risk our heavy ships or cruisers west of Bear Island." This fact, he added, had been emphasized by the loss of the *Edinburgh* and *Trinidad*.

Accordingly, when the next two convoys sailed (PQ 16 and QP 12) on May 20 and 31 respectively, four cruisers with three destroyers provided close cover west of Bear Island against *Lützow* and *Scheer* while the Home Fleet cruised northeast of Iceland to deal with the *Tirpitz* in case she should come out.

An unsuccessful try had been made to obtain the cooperation of the Russian air force in the form of cover for the *Trinidad* up to two hundred miles from the Murmansk coast, but the arrangements had gone wrong. With the passage of QP 12 and PQ 16 it was decided to coordinate an attack by two hundred Russian bombers on the German aerodromes of northern Norway, but again something went wrong, only one small attack was made, and that after the convoys had reached harbor.

QP 12 had a quiet time and was not attacked at all. Fourteen of its fifteen ships got through and one turned back. PQ 16 had the usual dozen or so U-boats deployed against it and approximately 250 bombers and torpedo planes, at a time when it was virtually impossible for us to provide it with any air cover at all.

Almost always the heaviest attacks were made on loaded PQ convoys, while the empty QP's returning home had a comparatively easy time. On this occasion seven ships out of thirty-five were sunk and one turned back. Considering the size of the German attack it was not nearly as bad as might have been expected; Admiral Tovey in his official report attributes this to "the skill and endurance of the escort under the command of the Commanding Officer of the *Ashanti* and to the steadiness, good gunfire and excellent station keeping of the convoy." He goes on to say, "the German bombers

pressed home their attack on one day only, while their torpedo aircraft were cautious in the extreme and generally ineffective.”¹

On the last two days of this passage Russian fighters appeared.

The *Scheer* and *Lützow* did not leave Narvik; the Germans had decided to give the Luftwaffe a chance to show what it could do working together with the U-boats.

The next two convoys, PQ 17 and QP 13, were to have been run in the first half of June, but the plight of Malta at this time was so very grim that the island had to get absolute priority.

North Russian convoys were accordingly postponed, as there were not enough destroyers to escort the Malta and Arctic convoys at the same time—another indication of how short of ships we were, and of how very much depended on what was hardly more than a handful of vessels.

The revised date for the two postponed north Russian convoys was fixed for June 27, and events went forward to the greatest single success of the Germans during the whole war at sea.

Looking back now on PQ 17, the affair has the awful inevitability of any enterprise in which men set themselves a task too great to complete, but from which there is no turning back.

¹ Supplement to *The London Gazette*, October 13, 1950.

THE DESTRUCTION OF CONVOY PQ 17

The beginnings of trouble became clear before PQ 17 sailed, but the importance of the convoy was so great that an attempt to get it through had to be made. It was the worst period of the war on the Russian front and in the Mediterranean. The previous winter the Russians had stopped the Germans just short of Moscow. It was now not clear that they could stop the new German summer offensive reaching across the industrial areas to the wheatlands of the Ukraine, through the great new oil fields and the dazzling political opportunities that would come from the conquest of the Caucasus.

In the Mediterranean, Malta was on the verge of famine, and if Malta fell things would be made enormously easier for Rommel, who already seemed on the verge of complete success in the desert.

The backbone of Allied military strength was Russia; but upon the arrival or non-arrival of a single big convoy might depend German victory in a decisive battle.

With these things in mind Admiral Tovey thought on the situation; later he was to write:

"Information received in June indicated that the enemy intended at last to bring out his main units to attack the next east-bound convoy east of Bear Island. The strategical situation thus produced was wholly favourable to the enemy. His heavy ships would be operating close to their own coast, with the support of powerful shore-based air reconnaissance and striking forces, and protected, if he so desired, by a screen of U-boats in the channels between Spitzbergen and Norway. Our covering forces, on the other hand, if they entered these waters, would be without shore-based air support, one thou-

sand miles from their base, with their destroyers too short of fuel to escort a damaged ship to harbour.

"Apart from submarine attack off the enemy coast, a more favourable disposition could be brought about only by inducing the enemy heavy ships to come further to the westward to deliver their attacks."¹

So Admiral Tovey proposed a scheme to lure the German surface ships to the west, suggesting that when the convoy reached approximately 10° East, it should turn back for twelve to eighteen hours, with the hope that the Germans would thus be induced to pursue it through waters where twelve British and Russian submarines patrolled, and where our surface ships would have the advantage. Even if this did not happen, the Germans might reasonably be expected to run short of fuel, and have to put back to base. If they did that the convoy might be able to get through the most dangerous part of the trip, as far as attack from surface craft was concerned.

However, the Admiralty did not approve of the scheme and, as it turned out, the German surface ships did not leave their bases until much later than was expected. Afterwards this was discovered to be because Hitler hesitated and did not let the *Tirpitz* sail until it was too late for her to attack the convoy, but when she did sail her mere presence at sea had a catastrophic effect on the convoy.

Instead of Admiral Tovey's first plan for the deception of the enemy, another was carried out but without success. A dummy convoy sailed, with orders to behave like a raiding force bound for southern Norway, but it was never sighted by the Germans at all, though it twice steamed out toward the Norwegian coast—on June 29 and on July 1.

Meanwhile the Germans had drawn up detailed plans for the sortie of the big ships, under the title of "Operation Knight's Move."

Two German forces were concerned, the *Tirpitz* and *Hipper*, ships of about equal speed (around thirty knots), with six destroyers coming up from Trondheim to Altenfiord and a second group of ships, *Lützow* and *Scheer*, of twenty-six knots speed, also with six destroyers, sailing direct from Narvik.

After thorough reconnaissance, it would be the duty of the *Tirpitz* and *Hipper* to attack the convoy's escort, while the

¹ Supplement to *The London Gazette*, October 13, 1950.

Lütow and *Scheer* would go straight for the merchant ships, sinking them, or at least leaving them disabled, so that they might easily be picked off later by submarines or aircraft.

An engagement with the Allied heavy surface ships was to be avoided, but it was hoped that the convoy could be finished off in good time for the German ships to get away before the Home Fleet, which it was thought would be cruising in the neighborhood of the Faroe-Iceland area, could intervene.

Much depended on the Luftwaffe, and it was clear that the SKL had some doubts as to whether it would really carry out its role of reconnaissance properly, for the SKL had been disappointed so often before in the Luftwaffe, beginning in the early days of the war when German bombers had set upon and sunk, without survivors, two of their own destroyers.

However, Raeder noted that there were certain things in the navy's favor. First there were 16,000 tons of precious oil fuel available in Norway; in addition, the weather was good, for June is the month between the spring storms and the heavy summer fogs of July.

In addition, the ice situation was excellent, for the ice had not yet melted much. It would therefore not be possible for the convoy to go far to the north to dodge the enemy. From a point about 150 miles west of Bear Island, the convoy would have to sail for several days within 200 to 250 miles of the German air bases at a time of year when there would be no darkness to hide it from the Luftwaffe.

QP 13 sailed westbound from Archangel and Murmansk on June 26 and 27. These thirty-five ships were, of course, empty, and the Germans did not bother about them, concentrating on the loaded ships of PQ 17. Nevertheless, QP 13 did not escape scatheless, for it ran into a British minefield in the Denmark Strait between Iceland and Greenland, the position of which it did not know, and the minesweeper *Niger* and five merchant ships were sunk; one other merchant ship was damaged.

PQ 17 sailed from Hvalfjord in Iceland on June 27. There were thirty-four merchant ships, an oiler for the escort, and three rescue ships. The escort itself was six destroyers, four corvettes, three minesweepers, four trawlers, two anti-aircraft ships, and two submarines.

All the convoy was bound for Archangel, as recent air raids had destroyed most of Murmansk. Running through all too

few patches of fog, the convoy was sighted by the enemy on July 1. The first air attack took place the next day, when nine torpedo bombers came in; they got no hits and one of them was shot down. On July 4, with the American ships in the convoy flying new, clean Stars and Stripes in honor of the day, the torpedo bombers were back again. One ship was hit in the morning and later sunk; six bombers attacked in the evening without result, but later still twenty-five torpedo bombers sank two ships and damaged another.

While this had been going on, British and American covering forces were taking up their positions. The cruisers, under Rear-Admiral L. H. K. Hamilton, D.S.O., were north of the convoy by July 2. They were the British *London* and *Norfolk*, and the American *Wichita* and *Tuscaloosa*, with three destroyers, two American and one British.

Late on the night of July 3 they had been sighted by the enemy.

The heavy ships moved slowly from July 1 to 3 from a position northeast of Iceland to another northwest of Bear Island. They were the battleships *Duke of York* (flying the flag of Admiral Tovey) and *Washington*, the *Victorious*, and the cruisers *Cumberland* and *Nigeria* with ten destroyers. The British cruiser *Manchester* joined later.

Bad weather further south along the Norwegian coast had hindered our air reconnaissance of the German bases, but there were indications that *Tirpitz* and *Hipper* had left Trondheim for the north, and later on July 3 an aerial photograph of Trondheim showed that, in fact, the two big ships were no longer there.

Until eleven minutes past nine on the evening of July 4, the first day of heavy attacks, Admiral Hamilton's cruisers remained with the convoy, going further eastward and deeper into the danger zone of U-boats and aircraft than had been originally intended.

Meanwhile the heavy German ships were believed to be moving northwards. The four Allied cruisers could not offer any serious obstacle to the mass destruction of the convoy and of themselves by the 15-inch guns of the *Tirpitz* and the 11-inch guns of the *Scheer* and *Lützow*, and the order came direct from the First Sea Lord for them to withdraw at once, and for the convoy to scatter, each ship trying to reach Russian ports by itself as best it might.

Mr. Churchill, in *The Second World War*, records that it

was only after the war was over that he found out that these orders came personally from Sir Dudley Pound, and he says of the situation at this time that the risk of an attack by the *Tirpitz* and her consorts was much greater than anything threatened by the U-boats and aircraft. He points out that our cruisers would have been of no value against the force the Germans could have employed, and it seemed that the only hope of saving a proportion of the convoy lay in scattering as widely as possible before the enemy arrived.¹

Actually, because of the difficulty of getting the final approval of the operation from Hitler, the *Tirpitz* did not sail from Altenfiord until noon on the next day. By that time the convoy was thoroughly scattered and the escorting cruisers far away, so that there was nothing for the *Tirpitz* to do but to turn back, as it was considered at headquarters that the ship should not be risked unduly. However, she had done her part; the escorts were driven off, the convoy had been broken up, and the individual ships, almost helpless, were being hunted down at leisure by the aircraft and submarines.

Tirpitz in her brief appearance had had a narrow escape from being torpedoed by the Russian submarine *K.21*; the Russian Commander in fact claimed to have hit her, but he afterwards turned out to have been mistaken.

Much later, when the memories of the comradeship in arms between the West and Russia were being expunged deliberately from the minds of the Russian people, the Soviet press made much of this incident, and accused Britain of deliberately concealing the fact that the *K.21*'s torpedoes had hit their target. If the *Tirpitz* had been hit it would have been impossible to keep it quiet, for German naval records were open to all the Allied powers. It was also overlooked by the Russian commentators in their ignorance of naval affairs that mistaken claims of this sort are common and do not, as the Russians seemed to imagine, reflect on the honor or professional competence of the officer making them.

When the *Tirpitz* was known to be out, the British and American heavy ships tried to give the impression that they were steering to cut her off if she ventured too far from the Norwegian coast, in the hope that she would thus be driven back, but the Germans took no notice of this maneuver.

¹ *Op. cit.*, Vol. 4, p. 235.

Meanwhile merchant ships from the convoy were hunted down by their relentless pursuers.

After it was all over it took more than a fortnight to establish definitely the fate of all ships and to gather together survivors that could be found, for they were scattered all over the Barents Sea, from the ice fields onto which the crews of the sunken ships had scrambled to the coasts of Novaya Zemlya. Twenty-one ships in all were sunk. Out of 200,000 tons of supplies which the convoy carried, only 70,000 tons reached Archangel.

It had been a horrible business; everybody felt terribly the way in which the merchant ships had had to be left alone in the face of the threat to the British and American heavy ships by German air and submarine forces east of Bear Island. When the *Washington* came back to Iceland, her crew refused to go ashore, for they were ashamed to face their comrades,

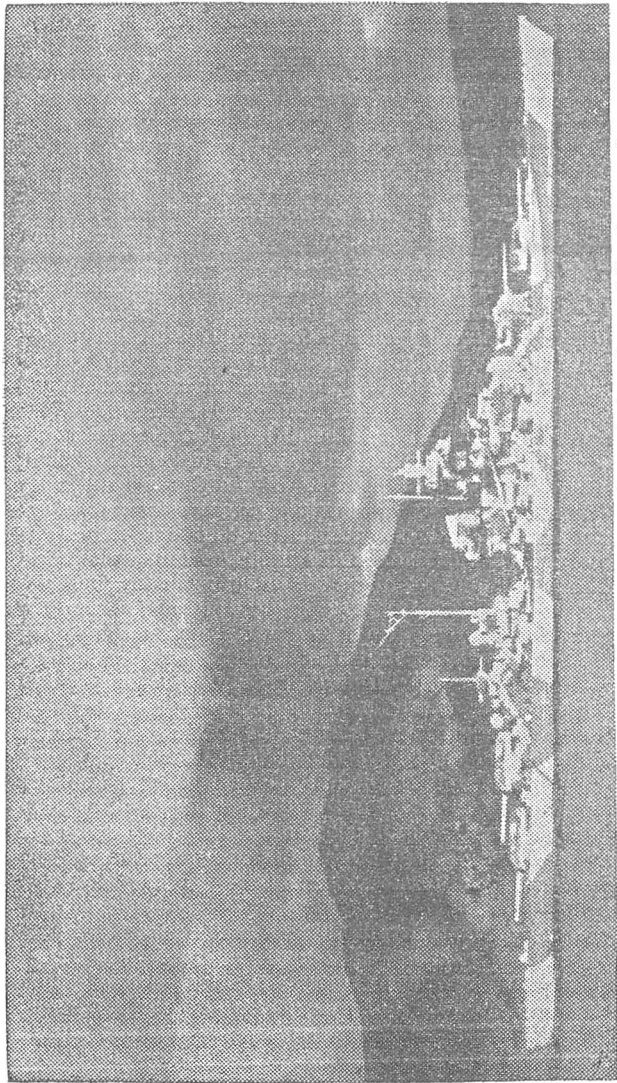
It is all over now, but as long as men fight wars and sail the seas, convoys will be necessary and the same problems will come up repeatedly in different ways, so that the tragedy of PQ17 will always have to be studied and men will long argue whether any kind of foresight could have prevented it.

Most of the convoy was lost; but it seems fairly clear that if it had kept together, there would have been nothing to prevent heavy German ships from destroying it, except the nervousness of the German commanders, the degree of which we did not then realize. Once it was accepted that the two Allied battleships, the aircraft carrier, and their escorts could not be risked in the neighborhood of the enemy coast, disaster was certain any time the Germans decided to use the threat of the *Tirpitz*.

It has several times been stressed in this narrative that the presence of the *Tirpitz* pinned down Allied heavy ships which were needed elsewhere.

In view of the fact that when she did make her one big sortie the Allied heavy ships did not try to intercept her, because of the risks involved, it may be asked whether it was worth while keeping the Allied heavy ships in north Atlantic or Arctic waters.

The answer to this must be that the loss of most of PQ 17 represented only a minor disaster to the Allies compared to what might have happened had the German battleship made for the open waters of the Atlantic. The Arctic convoys were important, but the whole war effort of the Soviet Union did



Tirpitz off the Norwegian coast. She wears camouflage designed specially for northern waters.

—*Imperial War Museum*

not depend on them. The whole war effort of Britain and the United States in Europe, the Middle East, and India did depend on the Atlantic convoys.

In the last resort, the British and American big ships had to be kept intact to hold the Atlantic routes. In the Atlantic they would have been able to fight with absolute air superiority on their side, thanks to the fact that they would have had aircraft carriers with them, while the Germans had none and the critical action would have been fought out of range of shore-based aircraft. Moreover, it would have taken place in the open sea, where it would not be as easy to concentrate U-boats as it was off the North Cape.

On the other hand, an attempt by the Home Fleet to give close support to the convoys with big ships all the way to Murmansk would in all probability have ended in the same way as a head-on attempt by the Home Fleet to steam up Trondheim or Alten fiords and sink the *Tirpitz* by gunfire.

The essence of the war at sea was that on one hand there were things that capital ships could not do and, on the other, there were things that submarines and aircraft could not do—as witness their failure to stop the Atlantic convoys.

The only possible mitigation of a tragic situation might have been provided by keeping the close escort with the merchant ships, in the hope that they would be able to collect them again after the scattering had been carried out, and give them some protection against aircraft and submarines.

Mr. Churchill drew conclusions from PQ 17, and wrote to Stalin:

“It is . . . with the greatest regret that we have reached the conclusion that to attempt to run the next convoy, PQ 18, would bring no benefit to you and would involve dead loss to the common cause.”¹

Stalin replied somberly:

“I never expected that the British government would stop dispatch of war materials to us just at the very moment when the Soviet Union, in view of the serious situation on the Soviet-German front, required these materials more than ever.”²

It was not until September that another convoy was sent to Russia, for once again ships from the Home Fleet had to

¹ *Op. cit.*, Vol 4, p. 240.

² *Ibid.*, p. 241.

be switched south in August to help get a convoy through to Malta.

This was the most famous of all the Malta convoys; only five merchant ships out of fifteen got through and the aircraft carrier *Eagle* and the cruiser *Manchester* were sunk, but the five ships that reached the Grand Harbour had raised the siege of Malta, and things on the island were never so bad again.

Things were never so bad again anywhere for the Allies in the whole war; the hardest fighting in the west was to come, but the time of defeat was over. Almost unseen, within a few weeks the balance swung over to our side; sometime in August 1942 was the very day. The American landing on Guadalcanal and the successful relief of Malta are the nearest we can get to pinpointing the moment. The onrush of Axis power was dammed. Then it was turned back. Guadalcanal, Alamein, North Africa, and Stalingrad followed.

In the meantime plans and preparations had to be made for PQ 18—the next convoy to north Russia.

With the decisive battle of the war on the Eastern Front clearly looming, this convoy was perhaps more important than any of its predecessors, a point well appreciated by the Germans, and this strengthened Hitler and Raeder in their determination to keep the big ships of the fleet in northern Norway. "Only by keeping the fleet in Norwegian waters can we hope to meet . . . danger successfully," said Raeder. "Besides," he went on, "it is especially important in view of the whole Axis strategy that the German 'fleet in being' tie down the British Home Fleet, especially after the heavy Anglo-American losses in the Mediterranean and the Pacific. The Japanese were likewise aware of the importance of the matter," added Raeder.

Two other factors reinforced the decision to keep *Tirpitz* and the other ships in northern Norway; one was the danger of destruction by bombing which any big ship would run in a German yard, and the other was the mining by the R.A.F. of German home waters, which made navigation a constant danger. This in particular affected the training of U-boat crews and the testing of new boats as the area of the Baltic in which they could move freely grew smaller.

When at last the time came to sail PQ 18, it was found to be still impossible to get Russian air support at the Murmansk

end of the voyage; this was the time of the German advance to the Volga and to the Caucasus. Accordingly, two squadrons of Hampden torpedo bombers were flown to north Russia, while British and American warships took their ground crews, stores, and torpedoes to Murmansk, together with a British medical unit which the Russians refused, at that time, permission to land, despite the conditions in which sick Allied seamen found themselves on shore in Russian hands.

For PQ 18 Admiral Tovey decided to rely on a larger number of destroyers than had hitherto been used for close escort work, together with aircraft from the auxiliary aircraft carrier *Avenger*, a converted merchant ship. The extra destroyers were taken away from the Home Fleet, whose big ships in the forthcoming operation would not need long-range escort.

The escort for the convoy was under Rear Admiral R. L. Burnett, C.B., C.B.E., the Rear Admiral Commanding Home Fleet Destroyers, in the cruiser *Scylla*. As complete as possible a scheme of air reconnaissance was devised, based on north Russia, Iceland, and the United Kingdom. In addition to watching the enemy, planes were to watch the ice barrier which, with the coming of autumn, would soon begin to move down from the north.

The convoy of thirty-seven ships sailed from Loch Ewe on September 2 and began to pick up its escort. First there was the ocean escort of three destroyers, four corvettes, two anti-aircraft ships, and four trawlers. Then came Admiral Burnett's force, *Scylla*, *Avenger*, eighteen destroyers, three minesweepers, and two submarines.

The big ships were held ready for a possible break-out by the *Tirpitz* in a northwesterly direction, and submarines lay off the Norwegian ports. From these came the report on September 10 that the *Scheer*, *Hipper*, and *Köln* were moving up from Narvik to Altenfiord. One of the submarines, the *Tigris*, was close enough to try an attack; in fact she was too close, for she was very nearly rammed by one of the escorting destroyers and her torpedoes all missed.

PQ 18 was first sighted by the enemy on the evening of September 8, but attacks did not start until the 13th. This was contrary to what had almost become routine for these trips. Generally, the first sighting was followed almost immediately by the arrival of a permanently shadowing plane, then by small-scale attacks gradually working up over a period of days to the time when the Germans put everything they had into

the air. It did not happen on this occasion because of bad visibility, but it was we, rather than the Germans, who were placed at a disadvantage. When the German attack did come, it was an all-out one, and our gun crews and fighter pilots went straight into action without the practice against small-scale attacks which would have been very valuable.

Between September 8 and 13 the escorts were refueled either at sea or, in the case of the *Scylla* and five of her destroyers, at Lowe Sound in Spitzbergen.

First blood went to the U-boats; two ships were sunk, on the morning of September 13. Then, in the afternoon, six German bombers appeared. Fighters from the *Avenger* took off and chased them away. Having done this, they found themselves out of the best position for defending the convoy when a massed attack of forty to fifty torpedo planes was made. Each German aircraft carried two torpedoes and all flew very low, so that it was hardly possible to pick them up on the radar screens before they were in sight. The attack was pressed right home and eight ships were sunk. Later, during the night, a large tanker was sunk by a U-boat.

Next day the *Avenger's* captain decided to try new tactics; except for a few patrols all the fighters were to be kept on board ship until the size and strength of the enemy attack could be judged. If the attack was serious, the fighters would be flown off in time to get among the enemy just as he was preparing to aim his torpedoes or bombs. If the attack seemed only a minor one, the fighters would be kept down.

Events of September 14 justified this decision, backed as it was by improved anti-aircraft fire as the guns' crews got into their stride. On that day there were two heavy torpedo attacks—by a total of forty-seven aircraft—and two bombing attacks, but altogether they resulted in the sinking of a single ship. On the following day a prolonged attack by about seventy bombers obtained no success at all.

Three merchant ships were sunk by U-boats; three U-boats were sunk by the convoy's escorts—*U-589* by the *Faulknor*, *U-457* by *Impulsive*, and *U-88* by the *Onslow*; this last sinking took some three hours and was the result of good teamwork between the *Avenger's* planes and the *Onslow's* depth charges.

At 8:48 on the morning of September 14, a Swordfish from the *Avenger* sighted a U-boat on the surface, some six miles south of the convoy. The *Onslow* was closest to the position

of the sighting and was ordered to attack. The U-boat, still on the surface, was sighted from the crow's nest of the destroyer, but it dived at once. The *Onslow*, steaming at thirty knots, tore up to the position at which the U-boat had dived, and started looking for it with Asdic. Within a few minutes the U-boat was picked up about 1,800 yards distant, and the first depth-charge attack was made. Between 9:55 and 10:36 four attacks were made, the target being lost and found again. Not till 10:47 were any positive results obtained, but then oil was seen and smelled on the surface. There was a firm contact by Asdic just in front of the patch of oil, and three depth charges were dropped—only three because the *Onslow* was beginning to run short of them. After the charges had exploded, contact was lost. A sixth attack was made at 11:01, and then another firm contact reported at 11:44, followed by a seventh attack. Three minutes afterwards a loud explosion was heard from beneath the surface, and wreckage was sighted—gratings, vegetables, a sock, tins of food, and some boxes.

Two more attacks were made and samples taken of the oil and wreckage; then, with only five depth charges left, the *Onslow* went back to the convoy.

U-88 had been commanded by Lieutenant-Commander Bomann, and was a unit of the 13th Flotilla, based on Trondheim.

Altogether the enemy lost some forty planes, and none of the later attacks were carried out with the skill and daring of the first one. This almost certainly meant that the best of the torpedo pilots had been killed, and there were very few of these pilots of good quality in the Luftwaffe. This was another result of Göring's failure to take seriously the war at sea.

By this time, as PQ 18 steamed slowly on toward Russia, the *Avenger* had been recognized as the hard core of the British defense and several attacks were directed against her. As a precaution, two Hunt class destroyers had been attached to her for close defense purposes, and this measure had worked very well. There was, however, some good fortune on our side, for though the *Avenger's* flight deck was too short for planes to land on in rough weather, happily the weather was calm throughout until the mouth of the Dvina River at Archangel was reached. But then a heavy gale blew up, and three ships ran aground. They were later refloated, and finally twenty-seven of the original forty ships reached Archangel—the last

casualty having been one ship sunk off Cape Kanin near the entrance to the White Sea.

As soon as PQ 18 had been taken through the worst dangers of the trip, the *Scylla* with her sixteen destroyers, and the *Avenger* with her two Hunts and two oilers turned round without entering harbor and took the reciprocal convoy, QP 14, back through the danger area.

There were sixteen ships in this convoy with a close escort of its own, apart from Admiral Burnett's force, of two Hunts, two anti-aircraft ships, four corvettes, three minesweepers, and four trawlers. It had sailed from Archangel on September 13 and thick weather protected it until the morning of the 19th. Then the German spotters found it and the U-boats were soon on hand. On the next day they sank the minesweeper *Leda* and one merchant ship, and hit the destroyer *Somali* in the engine room. For four nights and three days, the *Somali* was towed by the *Ashanti*, her sister ship, but then a northerly gale came up and broke her back, and she sank.

On account of the danger from U-boats, the *Scylla* and the *Avenger* were withdrawn from the convoy, Admiral Burnett moving his flag into the destroyer *Milne*. On September 22, two more merchant ships and a Royal Fleet Auxiliary were sunk. Long-range Catalinas came out from Sullom Voe in the Shetlands to see the convoy home and the escort was finally released off Cape Wrath on September 26, after having been "in conditions of almost continual action," to quote Sir John Tovey's phrase, for a period of eighteen days.

During these proceedings all available Allied submarines—British, French, and Norwegian—had been covering or escorting the convoys and hoping to see something of the German heavy ships, while the Home Fleet itself had been out from Akureyri in an endeavor to mislead the enemy.

THE BATTLE OF NEW YEAR'S EVE

Now, from the great north Russian convoys numbering scores of ships, we must turn our attention to a fifty-five-foot Norwegian fishing boat with ten men on board, chugging across the North Sea under the impulse of its single-cylinder engine, heading for Trondheim fiord and the *Tirpitz*, which they proposed to sink.

As far as the German battleship was concerned, the scores of Allied warships she was tying down and the planes that watched her were nothing of a menace as compared with the fifty-five-foot fishing boat *Arthur*. She had a crew of only ten men, four Norwegian and six British, but her cargo, hidden below deck, consisted of two "chariots," overgrown torpedoes, on which two men rode astride, clad in frogmen's suits.

The origin of this new attempt against the *Tirpitz*, made as the summer dim was beginning to fade in Norwegian waters, was the existence of a clandestine service of small fishing craft which had been run ever since the winter of 1940 between the Shetlands and occupied Norway. It had been run so regularly that it was known throughout resistance circles in Norway as "The Shetland Bus."

The idea, as far as the *Tirpitz* was concerned, was that one of these boats should be sent over to Trondheim fiord carrying chariots and a party of British seamen to man them. The crew of the boat would be, as always, Norwegians.

The chariots and their operators would be smuggled past the Germans, as so much had been smuggled before, and then, when the boat was inside the fiord, the chariots would be sent away against the German ship. After the attack, the crews of the chariots, plus the crew of the boat, would rendezvous ashore with men of the Norwegian resistance and make a dash for Sweden.

The leader of the enterprise was a former ferryboat captain, Leif Larsen. In the course of the war, working with "The Shetland Bus," he received the Conspicuous Gallantry Medal, the Distinguished Service Medal and Bar, the Distinguished Service Cross, and the Distinguished Service Order, besides Norwegian decorations. No other man, either British or foreign, has ever received all these British honors.

The boat called *Arthur* was selected, and altered inside so that it would be possible to hide the chariots and the six men required to handle them.

Then, equipped with a splendid set of forged passes based on specimens supplied by Norwegian agents, the *Arthur* set sail, loaded up with peat, which was a plausible sort of cargo for a coasting cutter to be bringing into Trondheim.

As was usual on these trips, nothing was seen between the time of leaving the Shetlands and sighting the Norwegian coast; war had swept bare the surface of the sea. The first stop was in a little bay on the island of Smölen at the mouth of Trondheim fiord. Here they started to lower the chariots overboard; this they were doing when a German plane appeared as the chariots lay uncovered on the deck. The plane flew over them a couple of times and then went away, clearly not having noticed anything. Little boats like the *Arthur* were common enough, for the tenuous economy of the Norwegian coast under enemy occupation was kept going by them; if the boats had not run, the people would have starved and the Germans would have had still more trouble on their hands.

After the chariots were safely over the side, and out of sight except to the closest inspection, Larsen contacted a man who had all the latest information on the German control system for Trondheim fiord. Her captain fully briefed, the *Arthur* started off again, to head into the fiord. The engine broke down. The engineer did his best to get it going and finally it restarted, but everybody knew all along that at any moment it might break down again, and that there might then be no repairing it.

At 10 o'clock next morning the last stage of their adventure began. The Englishmen hid in a pitch-dark space between two bulkheads, and the Norwegians stayed on deck, ostensibly ordinary fishermen. As they neared Trondheim itself they met the German examination vessel. They were third in a queue of boats waiting to be examined. Finally their turn came, and they went alongside.

This was ticklish; if they did not slow down with the right degree of gradualness the chariots, which were being towed astern under water, would overrun their wires and come to the surface ahead of the boat. In addition there was bound to be a moment when the Germans, had they been looking in the water, could have seen the chariots below the surface; but they were not looking.

A German naval officer boarded the boat. He made for the after cabin, and Larsen followed him, while the rest of the crew faced the Germans on the deck of the examination vessel across a couple of feet of water. They waited a quarter of an hour, then were told they could go on.

This was another dangerous moment, for once again as the *Arthur* moved the chariots would become visible if she were not handled with the utmost delicacy. But all went well, and the chariot crews were summoned from their hiding place. The worst was over, for once they were in the fiord nobody took any notice of them and there was nothing between them and the *Tirpitz* except fifty miles of fiord and the torpedo nets, which often enough the chariot crews had practiced cutting.

All afternoon, in fine weather, the *Arthur* went on up the fiord toward her rendezvous with the *Tirpitz*. After dark the weather got bad, and although the boat was now far from the sea, she began to pitch steeply. Too steeply; there was a jerk, and then another jerk, a blow on the propeller, and the chariots were gone.

They were within five miles of the *Tirpitz*, their presence was unsuspected, and they were helpless.

One of the Englishmen dived under the boat and reported that the rings on the noses of the chariots, by which the towing wires were secured, had broken. It was a tragic failure of workmanship.

The bad weather continued, so that the *Arthur* could not approach the shore of the fiord and the spot where the rendezvous with the Norwegian resistance men had been fixed. She went on up the fiord, toward a sheltered stretch of shore and the Swedish frontier.

Eventually her crew scuttled her, got ashore, and in two parties of five, started off for Sweden. It was five days' walking away. The Englishmen wore jackets over naval battledress in the hope that if they were taken they would be treated as prisoners of war. The Norwegians, of course, would have been shot, as they would have been shot had they been caught on

any of these trips which they made so often, shot as their comrades were.

Larsen was a high-class escaper and believed in comfort so long as it entailed no special danger. For the first three nights his party slept in farmhouses; the farmers, of course, were risking a sentence in a concentration camp by taking them in. On the fourth night they were getting near the frontier. The watch of the Germans and the Quisling Norwegians was sharper here, so the party slept in a barn; next day there was snow, which handicapped their walking, and they were worn out, wet through, and freezing cold. One of the party, Able Seaman Robert Evans, was suffering from what was probably frostbite. There was no shelter and they went on through the dark, Evans straggling behind, when they saw armed policemen blocking the path.

The leading members of the party realized that they must shoot their way through; they fumbled at the zip fasteners of their jackets to get at their revolvers as they slowly came closer to the two policemen. The fasteners were frozen shut, and would not move. Evans came up in the rear, saw the situation, and as he advanced tugged at the tag of his fastener. He got it to work, drew his revolver and fired. Everybody made a dash for it. Evans was hit and fell, but the rest got clear over the frontier, where they met the other party, which had crossed without incident.

There was no going back for Evans. All the enemy, German and Quisling, were alerted, and even if his comrades had found him, it would have been impossible to carry him, badly wounded, across the ten miles of hilly ground which separated them from Sweden.

Evans was taken prisoner by the Germans, nursed back to health, and shot. This violation of international law was one of the charges brought against the former Field Marshal Keitel, sentenced to death and hanged at Nuremberg in 1946.

It is again necessary to alter the focus of the lens through which we are watching the career of the *Tirpitz* and her influence on the Second World War. From a handful of men, fleeing through the snow and the mountains toward the Swedish border, we turn to the huge Torch convoys heading toward the landings in North Africa. Once again the way in which it is possible to switch the main weight of sea power within a few weeks from one part of the world to another was strikingly

shown. But concentration on Torch meant delay in the running of the next convoy to north Russia. There were no escorts available for the Arctic, so we tried sending individual merchant ships unaccompanied, hoping that they could pass unnoticed where a large convoy would be spotted. Thirteen ships were sent and five arrived.

At this time the base of the *Tirpitz* was changed from Trondheim to Altenfiord, five hundred miles farther north, so that she would be nearer the Arctic convoy route and, incidentally, farther away from aircraft based in the United Kingdom.

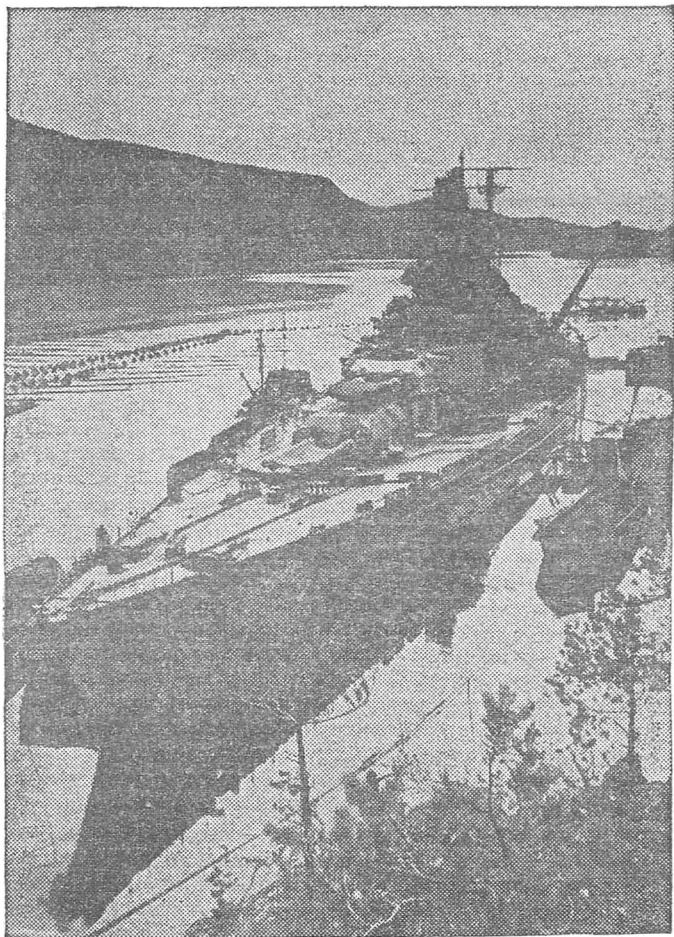
There was, however, little that she or the other heavy ships could do. At a meeting between Hitler and Raeder, in the presence of Keitel, at the Berghof on November 19, Raeder returned to the fact that the activity of the fleet in Norway was still hampered by lack of fuel oil. He observed in Sibylline fashion that operations were only intended when there was actual proof that the objective would be worth while. It was proposed to send both the *Lützow* and the *Prinz Eugen* from Germany to Norway, but because of the shortage of oil Hitler decided that only the *Lützow* should go, presumably because the engines of this ship were diesels, and diesel oil was still reasonably plentiful, while the *Prinz Eugen* used fuel oil.

The crisis in the Mediterranean, brought about by the Allied successes at both ends of the northern shore of Africa had made the oil situation even more difficult, for it had been necessary to send more fuel to Italian ports.

On December 22, Hitler and Raeder discussed the oil problem of *Tirpitz* and her smaller consorts once more, for, as Raeder pointed out, the oil shortage was going to become even more difficult, as delivery from Rumania would fall off during the winter months. As it was, said Raeder, the big ships could not be refueled in German harbors unless plans were made far in advance, for at short notice there would never be supplies on hand.

Hitler was still worried about the possibility of an Allied invasion of Norway, and considered that the middle of the winter was the most dangerous time, as darkness would cloak Allied movements and shield them from submarines, aircraft, and coast defenses alike.

The Germans suspected at this time that the Allies were running single ships in and out of Murmansk, and the *Lützow* was sent north to interrupt the traffic; but by the time she got



Tirpitz behind her nets at Altenfiord.—Imperial War Museum.

there and started to work, the big convoys had been restarted.

At this talk between Hitler and Raeder on December 22, the change that the war had undergone in the past few months was clearly shown. Instead of seeking how to exploit the great victories in Africa and Russia, the great preoccupation of Hitler and his advisers now was to prevent the collapse of fronts whose disappearance would make it possible to do substantial injury to the territory of the Reich. The question of occupying neutral areas in order to prevent the Allies from exploiting their successes was raised. Raeder, worried by this aspect of the matter, urged an occupation of Spain and Portugal by force. Hitler replied that he wished to wait a while for possible political developments—presumably his negotiations with Spain itself—but, he added, in the meanwhile, plans for the occupation of the Iberian Peninsula would be made.

However, it is clear that Hitler did not see that the war had in fact taken its decisive turn. Raeder on the other hand saw that despite the U-boats, the Allies were not only able to build up and expand the old theaters of war, based on Russia, Britain, and the Middle East, but also to start new ones. Raeder also knew that thanks to the American shipyards, the Allies were now producing more ships than the U-boats were sinking. The war had crossed the divide, and now the German Reich was heading down the slope to defeat.

A German victory was no longer possible; it can have been no satisfaction to Raeder to reflect that if his advice had been taken things might have been different. Hitler's determination that war with Britain and France should be risked in 1939 had meant that as far as sea power was concerned entire reliance had had to be placed on submarines. What heavy surface ships could have done to support submarines, had he waited to build them, Hitler never understood. This, in part, was due to the Luftwaffe and Göring, who were convinced that air power would master surface fleets. Later they discovered that this was not possible, but they managed to avoid having to explain away their miscalculation to Hitler. Raeder, on the other hand, caught at a great disadvantage through little fault of his own, soon had an impossible amount of explanation to offer. His knowledge that a combination of submarines, heavy surface craft, and naval aviation could be decisive was useless, for Germany now could never possess either heavy ships or naval aviation.

Part of the reason for this was Hitler's and Göring's belief that, as National Socialism was a revolution, it would revolutionize warfare, as it had revolutionized Germany. Democracies were decadent and out of date; so were their weapons. There has been in the democracies something of the same feeling; aircraft were newer than ships, therefore they would wipe out and supersede ships—especially big ships—at once. But things did not move as fast as that, as the story of the *Tirpitz* showed. Raeder saw the truth that the Americans proved in the Pacific—heavy ships, armed with and protected by their own aircraft, can do much more than they ever did in the past, even in the days before aircraft, mines, and torpedoes had been invented.

At the very moment that the war changed its course, while Raeder was still trying to get Hitler and Göring to understand the meaning of sea power and its use, an incident occurred which nearly settled the fate of the German surface fleet then and there, more than two years before what was left of it actually surrendered.

By the end of November 1942, the immediate strain imposed on Allied sea power by events in the Mediterranean had slackened and it was possible to switch the main concentration of convoy escort craft back to the Arctic again. The time of year was propitious for the running of convoys, because, as Hitler had already observed, from late November to mid-January there is so little daylight in the Arctic that German reconnaissance was almost out of the question.

There was some disagreement between Sir John Tovey, still commanding the Home fleet, and the Admiralty as to the method of running the next convoy. Sir John, as he points out in his published dispatches, was in favor of small, comparatively lightly protected convoys, of about ten merchant ships each, as being more inconspicuous and, in the winter weather of the Arctic, much easier to handle. The Admiralty, on the other hand, wanted big convoys, of about thirty ships, with all the escort craft that were available.

Sir John was strengthened in his view by the experience of convoy QP 15, of some thirty ships, which left the White Sea on November 17 and was completely broken up in darkness and bad weather. Notwithstanding this, twenty-seven out of the thirty ships got through, only two being lost, while one returned to Russia; this was an outcome certainly due as much to good luck as to the weather, which was, perhaps,

even more of a hindrance to the Germans than to the Allies.

It was finally agreed by the Admiralty and Sir John Tovey that the next convoy should sail in two parts, each of some sixteen merchant ships, escorted by destroyers and smaller craft.

The Admiralty insisted, however, that cruiser cover should be given right up to the Russian coast. Admiral Tovey had felt that in view of the loss of the *Edinburgh* it would be better to send the cruisers back when they reached longitude 25° E. In his dispatch on the next convoy Admiral Tovey generously says of the Admiralty's attitude that their insistence was fully justified in the event, for otherwise the cruiser force would probably not have been present at the action on New Year's Eve.¹

Before this convoy sailed, the PQ and QP designations were dropped for security reasons; Russian-bound convoys, formerly PQ, were designated JW with a number starting at 51. Similarly the QP's from Russia westwards become known as RA's, again starting with number 51.

JW 51A, the first half of the convoy, went straight through without anything happening, and reached Kola Inlet on Christmas Day.

JW 51B left Loch Ewe on December 22, fourteen merchant ships, gray-painted and rust-streaked, of six different nationalities, escorted by seven destroyers. Ferocious weather came on, and the destroyer *Bulldog* had the front of her bridge smashed in, while the *Achates*, another destroyer, nearly lost her mast. This and other damage to the *Achates* could be repaired at sea, but the *Bulldog* had to give up and return to base. There were now six destroyers with the convoy, but one of them, the *Oribi*, lost touch in the darkness owing to the failure of her gyrocompass, so only five destroyers remained—*Onslow*, *Obedient*, *Orwell*, *Obdurate*, and *Achates*, together with two corvettes and a trawler. These ships were under the command of Captain R. St. Vincent Sherbrooke, D.S.O., in the *Onslow*.

On December 30, the first of the RA convoys left Kola Inlet.

Despite bad weather and darkness, a German reconnaissance plane spotted ships on the move, and Admiral Kummetz, commanding the German task force in northern Norway, decided to go to sea with the *Lützow* and *Hipper* to attack them. The

¹ Supplement to *The London Gazette*, October 13, 1950.

Hipper was to engage the convoy's escort while the *Lützow* would get among the unprotected merchant ships and destroy them.

Covering both RA 51, coming back from Russia, and JW 51B were two cruisers—*Sheffield* and *Jamaica*, commanded by Rear Admiral R. L. Burnett, C. B., O. B. E., in the former ship.

Ice which formed on the ships came near putting the warships out of action and making it impossible for the merchant ships to unload their cargoes in the event of their successfully completing their voyage. To deal with the latter danger, the merchant ships, their holds crammed and their decks piled high with aircraft and tanks, kept their windlasses constantly turning. Once they stopped they would freeze, and there was no knowing whether it would be possible to get them started again when it came time to unload cargoes at Murmansk.

In the little escort vessels, 150 tons of ice could form on the superstructures—and this could threaten their stability. However, that was only a contingent danger; immediately and constantly present was the risk that extreme cold could stop the functioning of a ship's armament and her visual signaling equipment as well. This latter circumstance was especially serious, as it might be extremely dangerous to transmit radio messages when they could reveal to the enemy the presence in the neighborhood of Allied ships.

Conditions inboard of the ships continued to be horrible; condensation on the bulkheads would freeze up to a thickness of three inches, although steam from the engines was used in an effort to get rid of it.

Ordinary visibility on the occasion of this convoy was about seven miles to northward and ten miles to the south. The sky was mostly covered with low cloud; a gale had come up on the night of December 28, and the port wing column of the convoy, consisting of eight ships, lost touch. The minesweeper *Bramble* was sent to look for them. Three of the merchant ships rejoined the main body, but *Bramble* never did.

Meanwhile, neither Admiral Burnett with his two cruisers nor Captain Sherbrooke with the convoy and escort knew where the other was.

On the morning of New Year's Eve it was sixteen degrees below freezing, and there was ice on all ships; the wind had

died down and the sea waited slight and impassive for its next victims; the *Hipper* and *Lützow* steamed toward the convoy—six 11-inch, eight 8-inch, and eight 6-inch guns against the eight 4.7-inch guns of *Onslow* and *Achates*, and the twelve 4-inch guns of *Obedient*, *Obdurate* and *Orwell*. These last three ships were to have been armed with 4.7-inch guns, like the *Onslow*, but owing to damage done by German air raids, principally that on Coventry, the new guns were not ready when the ships themselves were completed and they had in consequence to be equipped with obsolete 4-inch guns taken from destroyers which had been scrapped between the wars.

On paper, there was little that the British destroyers could do, if the Germans found them; the only consolation brought by the bad weather, now moderating, was that it had made it more difficult for the German scouting planes and submarines to see what was going on. There had been a report from the *Obdurate* that a submarine was in the vicinity, but although there had been a long search, nothing had been found.

Out of the semi-darkness and mist of the last morning of 1942, two German destroyers and then a third appeared on the starboard side of the convoy. They were sighted by the corvette *Hyderabad*, who thought them to be Russians coming to reinforce the convoy escort and therefore did not report them. Almost immediately afterwards they were sighted by the *Obdurate*, also on the starboard side of the convoy. The *Obdurate* closed them, and they made off across the stern of the convoy, heading north; the Germans opened fire, and the *Obdurate* turned back to keep with the convoy. At the same time Captain Sherbrooke in the *Onslow* turned toward the threatened area—the rear of the convoy—ordering his destroyers to concentrate and the convoy to turn away to the south. Followed by the *Orwell*, *Onslow* headed toward the enemy, under a low somber sky. There was a little gray light leaking through the clouds, and there were gun flashes on the horizon.

Another enemy ship appeared, coming toward the convoy at high speed. Rightly the *Onslow* judged her to be the *Hipper*, and almost immediately the German ship was lit by the orange flashes of her eight 8-inch guns as she engaged not the *Onslow* and *Orwell*, but the *Achates*, the *fidus Achates* which four miles away was drawing a curtain of

smoke across the stern of the retreating convoy. But as *Achates* did this she was clearly to be distinguished by the Germans, her hull standing out against the white smoke.

The *Hipper*, on the other hand, was hard to see, because of her excellent camouflage of light gray and dark gray, but there was no mistaking the towering splashes from the 8-inch shells of the German ship. A single one of these shells could put a destroyer out of action, and the splashes were getting closer and closer.

Writing of this moment of the action, a French commentator, Captain Vulliez, said after the war, in the *Revue Maritime* (Jan. 1949):

"Never perhaps in the history of war at sea has a convoy found itself so open to destruction, never had big surface ships a better chance to show their power."

Onslow opened fire on the enemy from 9,000 yards, and at the same time steered so that she stood between the *Hipper* and the convoy. The *Hipper* at this time was firing on the merchant ships at the stern of the convoy, her especial target appearing to be a brand-new tanker, the *Empire Emerald*.

While this was going on, the other British destroyers, which at the beginning of the action had been stationed at the edges of the convoy, were now joining the *Onslow*. However, Captain Sherbrooke could not give his entire attention to the *Hipper*, for he knew that there were also, somewhere nearby, the three German destroyers which had been sighted at the beginning of the action. Accordingly, he divided his forces, sending the *Obedient* and *Obdurate* to guard against a possible return of the German destroyers from another direction, while with the *Onslow* and *Orwell* he kept between the *Hipper* and the convoy.

It became apparent that the German cruiser was too apprehensive about a torpedo attack by the two British destroyers to come close; hence, a long, scrambling engagement started, between the *Hipper* and the *Onslow* and *Orwell*, both sides firing at irregular intervals from out of the smoke and mist whenever they had each other in sight. Throughout the action the range was too great for the torpedoes of the British destroyers which were constantly steaming in and out of the splashes from the German shells. At 1006 the British hit the *Hipper* three times, while the German ship tried to race ahead, and away from her pur-

suers, so that she could work around the edge of the destroyer screen and have at the convoy directly.

There were other ships racing too; the *Sheffield* and *Jamaica* were heading for the action, but they might take up to two hours to arrive. It must have seemed to Captain Sherbrooke that two hours might as well be a century hence, and that there were great chances that neither he nor his ships would still be in existence by the time two hours had elapsed. Although Captain Sherbrooke did not know it then, the *Liützow*, even more powerful than the *Hipper*, was in the neighborhood and about to engage.

As it was, Captain Sherbrooke's immediate concern was to keep between the *Hipper* and the convoy, and to handle his destroyers with the delicacy required to prevent great clouds of spray coming inboard and freezing solid the workings of the guns and torpedo tubes.

Behind the smoke screen of the *Achates* the convoy was no longer under fire for the time being, and the *Hipper* concentrated on the *Onslow*.

An 8-inch salvo burst alongside the forecastle of the British destroyer and another fell in almost the same place. Sherbrooke stood on the open bridge, working out the situation in his head; when the enemy's shells went over the *Onslow* it was clear that he would reduce the range; hence the *Onslow* turned away. When the shells fell short, then the enemy would increase the range, and the *Onslow* turned toward the enemy. Five salvos, each one of which might have sunk the British destroyer, were thus avoided. Then the sixth salvo fell alongside the ship on both sides of the bridge, and shell splinters damaged the hull abreast the engine-room.

At 1020 came the seventh salvo.

An 8-inch shell hit the top of the funnel, splitting it in half as if it had been driven by a giant ax, and riddling the afterpart of the bridge. Captain Sherbrooke was badly wounded, losing one eye and being temporarily blinded; the main aerials and both radar sets were destroyed, the engine room holed, the two forward guns were put out of action, and fire broke out in the fore superstructure and on the messdeck. Ready-use ammunition at the disabled guns started to explode, and another German shell, a near miss, started numerous leaks. The *Onslow* had to slow down to fifteen knots, while Captain Sherbrooke, in great pain, refused to have his wounds attended to until he had made sure that the hole in

the engine room had been plugged, that the steering gear was in working order, and that the next senior ship, the *Obedient*, had taken command, in accordance with his orders.

Three times more the *Onslow* was narrowly missed by salvos from the *Hipper*. All her guns were now out of action—two because of hits, two because of the failure of electric power and formation of ice on the breeches. Dense black smoke was rolling out of the funnel, mixed with white steam from the safety valves. The First Lieutenant, who had taken over the ship when Sherbrooke had been led away to have his wounds treated, remarks that the combination of smoke and steam made a magnificent study in black and white and that the ship was rapidly heeling over to port. The noise from the escaping steam made it practically impossible to speak, and the smoke from the fires forward made it almost impossible to remain on the bridge. Captain Sherbrooke, his wounds dressed, sat in his sea cabin, receiving reports of the action and advising his First Lieutenant.

The *Obedient* together with the *Obdurate* was gathering to her the *Orwell*, when the *Hyderabad* sighted two German destroyers approaching the convoy. There was little that could be done if they decided to attack, but they went past the *Hyderabad* at slow speed and took station with the *Hipper*.

At this stage the weather was made worse by a sudden snowstorm. Out of it the *Hipper* and two destroyers appeared from the northward and headed toward the convoy, getting within five miles of it, as the *Obedient* steered toward the enemy, making smoke.

The *Hipper* concentrated her fire on the *Achates*, which had remained in the rear of the convoy. *Achates* was hit on the bridge, the forepart of which was blown clear away. Her Captain was killed, and damage in the engine room brought her speed down to ten knots. Nevertheless, she kept at her post for the next two hours.

Achates was hit at 1120. Ten minutes later, the *Hipper* once again turned away, followed by her destroyers, which, almost incredibly, had taken no part in the action. It was, from the German point of view, a sad contrast to the Kaiser's navy, in which the destroyers had always been the most daring and best handled of the surface craft.

Obedient, in engaging the *Hipper* on this last occasion, with her flotilla mates, in defense of the *Achates*, had had

her wireless shot away, so that command of the flotilla now passed to the *Obdurate*.

Now, the look-outs in the British destroyers saw two sets of gun flashes away to the northeast. One of these meant that the *Sheffield* and *Jamaica* had reached the scene of the action. It was 1138.

Coming up on the disengaged side of the *Hipper*, the British cruisers caught her by surprise, and she did not reply until the *Sheffield* had fired four salvos. The *Hipper* turned away, and as the *Sheffield* turned after her a German destroyer appeared straight ahead. This was the *Friedrich Eckoldt*, and she was at once sunk.

The other flashes which had been spotted from the British destroyers, still covering the rear of the convoy, had emanated from the meeting of the *Lützow* with the tiny minesweeper *Bramble*, armed with only a single 4-inch gun. The *Bramble* was at once put out of action, and probably blew up and sank some hours later. There were no survivors.

The *Lützow*, passing what was left of the *Bramble*, headed for the convoy and soon had it under fire. The Panamanian freighter *Calobre* was hit, and the faithful destroyers steered to get between her and this new enemy.

As they did this they sighted the *Hipper* and the two remaining destroyers. However, they were spared the need to take on both big German ships at once, for the *Lützow* ceased fire and began to engage the British cruisers, but before she went she hit the *Achates* again, so that presently, at the end of the action, the British destroyer turned off and sank, her survivors being picked up by the trawler *Northern Gem*.

Captain Sherbrooke received the V.C. Among those mentioned in the dispatches was Ordinary Seaman E. G. Mayer of the *Northern Gem*, who at the age of forty-two had volunteered for service at sea, and who was on his first voyage. His distinction was granted him for his work in caring for the wounded of the *Achates*, carried out with great devotion and with skill based on the fact that his wife was a hospital nurse.

The *Sheffield* and *Jamaica* chased the enemy away, but this fact was by no means clear to the four remaining destroyers of the escort, and as they gathered up the convoy and started off once more for Murmansk, they were not un-

naturally apprehensive, for only one of them was undamaged and there was a report that the Nürnberg was in the neighbourhood as well. The apprehension was only partially dissipated for those who heard at midnight the B.B.C. state that the enemy had returned to base.

Admiral Tovey wrote of this action:

"The conduct of all officers and men of the escort and covering forces throughout the successful action against greatly superior forces was in accordance with the traditions of the service. That an enemy force of one pocket battleship, one heavy cruiser and six destroyers, with all the advantage of surprise and concentration, should be held off for four hours by five destroyers, and driven from the area by two six-inch cruisers, is most creditable and satisfactory."¹

The poor performance of the two German cruisers on this occasion was on a par with that of the German big ships on other occasions, for example Lütjens' weak handling of the *Scharnhorst* and *Gneisenau* on their long raid of commerce destruction in the early part of 1941, and the same commander's failure to close with the damaged *Prince of Wales* after the *Bismarck* had sunk the *Hood*.

Others cases of this kind were to occur later. The one which disturbed the SKL most deeply was probably the action in December 1943 between the British light cruisers *Glasgow* and *Enterprise* and eleven German destroyers and torpedo boats escorting a blockade runner home through the Bay of Biscay. Three of the German torpedo craft, as well as the blockade runner, were sunk, while the British ships returned safely to their base.

Reading the comments of those at SKL on this performance one gets the impression that at headquarters it was at last accepted that German surface ships could not be expected to engage even a considerably inferior British force with any real hope of success.

The *Glasgow* and *Enterprise* seem to have given more of a shock to the SKL than the sinking of the *Scharnhorst* and of the *Bismarck*, or the crippling of the *Tirpitz*.

These failures had nothing to do with physical courage; that was never lacking. There was sometimes a lack of skill, principally due to insufficient time spent at sea, and there

¹ Supplement to *The London Gazette*, October 13, 1950.

was always a painful awareness that a single lucky hit might put one of Germany's very few surface ships out of action for a long time. But reading the narratives of these actions, both official and unofficial, from German sources, one gets very strongly the feeling that there was something else which went into the balance when the British and the Germans fought on the surface of the sea. There was a lack of that sureness of touch which was so frequently present when the Germans fought on land, in the air, or under the sea.

It would seem that there was nearly always a feeling of inferiority on the German side, never really justified by differences in the quality of men or material. This feeling may perhaps have been the result of the experience of the German navy in the only other war that it had ever fought, that of 1914-18. Then the German surface ships had never dared a trial of strength with the British. On the one occasion when the two fleets did meet, the only thought of the extremely able German admiral was to get his ships home as soon as possible. When he got them home his first concern was to report that in his opinion the outstanding lesson of the Battle of Jutland was that the German fleet could not hope for victory in a surface action. Scheer's conclusion remained valid for the rest of the First World War and continued uninvalidated throughout the Second. Jutland was not a great victory for the British, but it may be that its influence was of more value to them than that of many actions in which their enemies were soundly beaten.

So ended 1942, the decisive year of the war at sea.

DÖNITZ TAKES OVER

Just at the end of the battle on New Year's Eve, communications between naval headquarters in northern Norway and Berlin broke down, and Hitler and Raeder had no news of the action, except what they could get from B. B. C.

So Hitler waited, enraged; Hitler, who would not let a big ship go to sea without his express permission; Hitler, who could not sleep at night when a big ship was out; Hitler, who told Raeder: "On land, I am a hero. At sea, I am a coward."

Meanwhile, Göring was saying "I told you so," and complaining about having to waste Luftwaffe squadrons in the protection of useless big ships.

Finally news came, and, after playing for time as long as he could, Raeder went to Hitler's headquarters in East Prussia and saw him on January 6. The keynote of the interview is struck by two sentences from Raeder's report.

"The Führer talked for an hour and a half about the role played by the Prussian and German navies since they came into existence," and "The C.-in-C. Navy rarely had an opportunity to comment. . . ."

In the midst of all Hitler's words the points that he made stood out. The German navy had not contributed to the nation's effort in proportion to the resources devoted to it in either the First or Second World War. Heavy ships were now out of date and wasteful of men and material, as well as requiring protection by air force units which could be better employed elsewhere.

"It should not be considered a degradation if the Führer decided to scrap the large ships. . . . A parallel to this in the army would be the removal of all cavalry divisions," Hitler was reported as saying.

Raeder went away at the end of the conference and afterwards observed, in writing, that Hitler might be persuaded to change his mind about scrapping the big ships.

But it was not Raeder who could persuade him. His last act before resigning was to produce a long memorandum, pointing out once again that for the exercise of sea power a balanced fleet, with big ships and naval aviation, was essential.

On January 30, 1943, Raeder resigned, having held command of the navy since October, 1928. On leaving his post he suggested that he be given an honorary position, so that the morale of the nation might not suffer as it had done when Hitler dismissed his generals in December 1941.

Raeder was accordingly appointed Inspector-General of the Navy but never had anything to do. On resigning he pointed out that Kummetz, the Commander in the action on New Year's Eve, had been obeying orders when he had refused to engage deeply. Then he recommended that the new C.-in-C. be either Carls or Dönitz.

Carls was a man on the pattern of Raeder, and a conventional surface ship sailor. Dönitz had been a submarine commander in the First World War, when his boat was sunk and he was taken prisoner by the British in the Mediterranean. Brought to England, he spent some time in a Manchester lunatic asylum, probably because he was feigning madness as an aid to obtaining repatriation.

It would be interesting to know why this man, who had not proved himself to be of any special ability as a submarine officer, was made head of the submarine branch of the German navy as soon as it was re-created in 1935, but there is no doubt the appointment was an extremely good one as far as the U-boat arm was concerned. When Raeder retired and Dönitz took his place several excellent officers were passed over, but by that time a continuation of the submarine war was the only possible way in which the struggle at sea could be carried on. For that an experienced submarine admiral was needed.

Dönitz had made the submarine branch almost a separate service—to such an extent that when the *Scharnhorst* and *Gneisenau* were operating in the Atlantic they had to communicate with the U-boats in their immediate vicinity via

Berlin, because the surface ships and submarines used different codes.

Hitler's choice between Dönitz and Carls was a choice between the two conceptions of naval policy—surface or submarine. There could be little doubt as to what his choice would be, for, apart from his personal predilections, it would not be possible in the middle of a war to create either a surface fleet or a naval air arm. That could only have been done before the war started. Instead, Germany had gone to war with half a navy and no naval air arm.

Raeder must have wished that he had insisted on resigning in 1939 when he saw what it was that Hitler planned to do and when it was that he planned to do it.

It must also have been bitter for Raeder to see that, in the early stages of the war, the army had gained for Germany priceless ports on the coast of France and the coast of Norway, open to the Atlantic, and nearly blockade-proof, but as far as the surface navy was concerned nearly useless, for lack of ships. Whereas in 1914-18 Germany had had the ships and not the bases, in 1940-44 she had the bases and not the ships.

When Dönitz was appointed, he retained at the same time his earlier post as head of all U-boat activity. He had long given himself out as an ardent Nazi, a rarity in a service which was probably even more non-political than the army. At the time many had wondered whether he was just an opportunist, but those who saw Dönitz in the dock at Nuremberg felt that they understood how it was that Hitler had made him his successor. He was a born Nazi; as such he got on well with Hitler, saw a great deal more of him than Raeder had done, and was consulted on a much greater variety of topics.

Dönitz, at Nuremberg, was found guilty of crimes against peace and of war crimes, and was sentenced to ten years' imprisonment, the least sentence passed upon any of the convicted men. Taking into consideration the amount of time spent in custody prior to the trial, he should be due for release in May, 1955, the first of the Spandau prisoners to be freed.

In the judgment it was pointed out that he had ordered the

torpedoing of neutral ships, and also that he had allowed the order for the shooting of certain prisoners of war to remain in force after he had become Commander-in-Chief.

His submarines made a hell of the sea. International law was torn up, which did not mean arguments between lawyers in book-lined rooms, but rafts full of half-drowned men miles from land in weather that made survival impossible.

Yet some, at least, of the very seamen who had faced these risks right through the war and had lost shipmates and friends in the frightful submarine campaign, regretted the findings of the Nuremberg trial as far as both Raeder and Dönitz were concerned.

Though appointed as a submarine man, Dönitz's first task was to persuade Hitler to drop his plan to scrap big surface ships. This he succeeded in doing, except that it was decided not to continue the reconstruction of the *Gneisenau*.

On February 8, Dönitz had his first meeting as C.-in-C. with Hitler; the two men discussed mainly supply problems with Speer, Minister of Supply and Production. This was natural in view of the shortages of labor, material, and fuel, which were growing more and more urgent just at the time when Dönitz was receiving full support from Hitler for his belief that the sovereign remedy for the crisis of the war was the production of greater numbers of U-boats.

Before this meeting broke up, Dönitz reverted to the fiasco of December 31, and it was decided, with Hitler's approval, that it would be the C.-in-C.'s responsibility to order the heavy ships to sea "as soon as a worth-while target and a chance for success appeared." The decision went on to say that: "Once ordered to sea, the officer in command would have to act and fight entirely on his own initiative, according to the tactical situation, without awaiting special instructions from a higher echelon. Under such circumstances, one would have to accept losses."

Thus for the first time in the war a German commander afloat was free to use his own judgment in action, once an operation had been approved by his senior officer ashore.

Another early measure of importance taken by Dönitz was his decision to combine the posts of Chief of the Fleet (*Chef der Flotte*) and Commander of the Northern Naval Group in the person of Admiral Schniewind, who had previously held the former appointment alone, in succession to Lütjens, while Carls had been Commander of the Northern Group.

The German naval system of command was extremely complicated. Under the C.-in-C. there were two main surface commands: Naval Group North and Naval Group West. North was responsible for the Baltic, the North Sea, and the Atlantic as well as Arctic and Norwegian waters. West, with headquarters in Paris, had the Atlantic, the Channel, and the Bay of Biscay.

Under the Naval Groups were Admirals for Norway and France. In addition, directly under the C.-in-C. was a flag officer for northern Norway, Admiral Schmundt, on board the yacht *Grille* at Narvik, and Admiral Kummetz, Commander of the task force which was composed of the remnants of the German heavy ships.

These two commanders were independent of each other, but orders to the Flag Officer task force were usually sent via F.O. Arctic.

Previously, while there had been enough ships left, there was, under the *Chef der Flotte*, a commander of all the battle-ships and one for all the cruisers.

Additional complications were, first, the existence of an independent command for submarines, and second, that it was often necessary to apply to Göring in person in order to obtain the cooperation of a single squadron of aircraft.

The result of all the foregoing complications was that at the time when there was an operational German surface fleet, its Commander at sea had only the most limited powers, and this threw into relief a fundamental difference of opinion in the High Command of the German navy, which continued as long as the heavy ships were in a condition to fight.

Briefly, Raeder and the SKL at headquarters were generally in favor of offensive action whenever it was thought to have a reasonable chance of success, while the operational commanders at sea, who would have to carry out the plans of the staff, were always much more cautious.

This was a reversal of the situation which had prevailed during the 1914-18 War, for then the German High Command ordered the navy to be cautious, while Scheer and Hipper, the operational commanders, were in favor of a more daring policy. The end of the policy of caution had been the mutinies of 1918 and the collapse of the Second Reich. Raeder, as an officer of Hipper's staff, had had a close-up of the effects of excessive caution, while it is clear that the operational ex-

perience of senior officers afloat in World War II inclined them strongly to caution.

This divergence of opinion continued as long as the *Tirpitz* and the *Scharnhorst* existed. As will be seen, the *Scharnhorst* was lost because the acting Commander of the task force decided that a risk should be taken to intercept one of the north Russian convoys—a risk which the greater part of service opinion was against, as contravening the old theory of “the fleet in being.” This, translated into terms of 1943, meant that as long as the *Tirpitz* and *Scharnhorst* existed and could possibly come out, British ships were pinned down to watch them. Even if the Germans never came out at all the British ships would still be required. On the other hand, if they did come out, there was a risk from the German point of view that they would never get back again, and the British navy would be freed of a heavy burden.

Eventually, the *Scharnhorst* came out, and the *Tirpitz* did not, and in the end we got them both, but at the price of great exertion and the expenditure of much material which could have been well used elsewhere.

The one solution which would under no circumstances have been right for the Germans was Hitler's decision to “scrap the lot,” and Dönitz, appreciating this, secured its cancellation. On February 26 he told Hitler that he thought that the north Russian convoys would make excellent targets for the large ships, and that he considered it his duty, in view of the heavy fighting on the Eastern Front, to exploit these possibilities to the fullest extent. He therefore thought it essential that the *Scharnhorst* be sent to northern Norway to strengthen forces there. The *Tirpitz*, *Scharnhorst*, and, for the present, the *Lützow* with six destroyers would be a fairly powerful task force.

Hitler contradicted him, saying that he was against any further engagements of the surface fleet since, beginning with *Graf Spee*, one defeat had followed another.

“Large ships are a thing of the past. I would prefer to have the steel and nickel contained in these ships rather than send them into action again.”

Dönitz pointed out that operational commanders had been tied down by their orders, and that therefore they could not be blamed for their defeats. Hitler denied this and immediately changed the subject, going on to speak of the fighting on

the Eastern Front. But he gave Dönitz a chance to return to the charge, for he said:

"It is unbearable to see how the strength of the Russians is constantly increased by convoys, like the last one of twenty-five ships, reaching their destinations."

This was what Dönitz had been waiting for, and he at once said that instead of decommissioning the two heavy ships he would consider it his duty to send them into action whenever possible and as long as suitable targets could be found.

Then, says the record of the conference:

"The Führer finally agreed to the *Scharnhorst* joining the task force, as recommended by the C.-in-C. Navy. He asked how long it would be before a suitable target would be found. The C.-in-C. Navy thought in the next three months. The Führer replied: 'Even if it should require six months, you will then return and be forced to admit that I was right.'"

So the *Scharnhorst* sailed to Norway in the following month, just as the Arctic convoys were suspended at the end of the winter, for it was no longer possible to risk them off the enemy coast in the long hours of daylight.

With the temporary end of the convoys there was a lull in Norwegian and Arctic waters, but the winter convoy season of 1942-43 had turned the German navy upside down, eliminated its creator and most competent chief from the councils of war, and at the very least, materially aided in the great victory of Stalingrad.

All this had followed Captain Sherbrooke's action, of which Captain Vulliez, the French commentator already cited, writes:

"Without doubt it would be unjust and exaggerated to attribute to the indomitable courage of a handful of destroyers the failure of an entire fleet, but it would be equally unjust to deny that it was the decisive element."¹

The German Naval Staff consoled itself with the thought that the situation in northern waters did not depend so much on actual sinkings as upon stopping the flow of supplies to the Eastern Front, and that for the time being the flow had been stopped, but there was not very much comfort in the over-all picture. It was admitted by Dönitz that 1943 "would be a hard nut to crack," although, he said, 1944, 1945, 1946, and 1947 would be easier.

The SKL at about this time appears to have come to the conclusion that it was very doubtful whether Germany could

¹ *Revue Maritime*, January 1949.

bring the war to a successful conclusion by military means alone.

This was the time when everything was beginning to go wrong permanently for the Germans on land, while at sea the submarine campaign was clearly losing its momentum. German naval officers who were believers in surface ships must have read very wryly the official appreciation that one of the reasons for this failure was lack of surface ships to break up the convoys. For the surface ships could have driven off the anti-submarine escorts, thus leaving the merchant ships at the mercy of the U-boats.

The summer calm in the Arctic lasted until September, and the *Tirpitz* lay immobile in Altenfiord.

Once the darkness of winter had begun, the convoys would surely start again, but before that time the German Commander, still the Admiral Kummetz who had fought Captain Sherbrooke on the previous New Year's Eve, planned to strike a blow which, though of seemingly little importance, would in fact make the sailing of the Allied convoys more difficult.

Ever since 1940 the British and Norwegians on one hand, and the Germans on the other, had, with small parties of men, been waging a very cold war against each other in the most remote parts of the Arctic. Weather-reporting stations established before the war by the Norwegians on Spitzbergen and on the island of Jan Mayen were of the greatest use in arranging the dispatch and routing of convoys and were of even greater importance to the Germans for weather forecasting generally. The Allies had a stream of reports from ships and planes on the edges of the high latitudes from which originate the depressions and hence the weather generally of northwest Europe as well as the movement of ice. The Germans, apart from their weather planes and U-boats, had nothing, and had on several occasions tried to place small parties ashore on Greenland, Jan Mayen, and Spitzbergen.

When Norway was invaded in April 1940 there were already four Norwegians on Jan Mayen, part of the Norwegian Government Weather Service, which spread its network from that island to Spitzbergen and to Lapland. These four men remained there during the summer, reporting to London, but before the beginning of winter they were withdrawn.

Shortly afterwards the Germans sent a small party to the island on board a patrol vessel which was intercepted by the

British cruiser *Naiad* and ran itself aground. All on board were taken prisoner.

In the spring of 1941 the Norwegians came back to Jan Mayen and stayed there, watched from time to time by the German weather planes.

Spitzbergen, unlike Jan Mayen, which was normally uninhabited, had a peacetime population which totaled about 3,000. Two thousand of these were Russians, around Barentsburg, and the rest, Norwegians, at Longyear and the coal mines which provided between 700,000 and 800,000 tons of coal every year, mostly shipped to Norway.

It went on being shipped in 1940 and 1941, despite the occupation of Norway by the Germans, and it was not until August of the latter year that it stopped. The end of these shipments came without warning, and the weather reports from the meteorological station stopped at the same time. When the Germans sent a destroyer to see what had happened they found a sort of *Marie Celeste* island, completely abandoned, the radio station blown up, the mines sabotaged, and the two settlements empty.

After some trouble, the Germans succeeded in discovering one alone of the 3,000 inhabitants. This man, in a modest way, must go on record as one of the strangest characters brought to light by the war. He was a Norwegian hermit who lived away from the settlements by hunting and fishing, and he said that he had hidden when British forces had arrived for fear of being taken by them back to civilization as were the rest of the inhabitants of the island. He had also tried to hide from the Germans, for the same reason. The peace of Spitzbergen was for him preferable to anything else in a world at war. Unfortunately, history does not say whether or not the Germans left him alone. Questioned on this occasion, he said that the inhabitants of the island had been evacuated on August 24, the Russians going to Murmansk and the Norwegians to the United Kingdom.

After a survey of the terrain the Germans decided to set up a new weather-reporting station, but there was no prospect of working the coal mines, on account of the damage that had been done to them.

That had happened in September 1941. In May 1942 a Luftwaffe patrol spotted two small ships on their way to the islands. As they approached land they were attacked by a squadron of Focke-Wulfs and one ship was sunk, the other

set on fire. The Norwegians abandoned their ships and fled across the open ice, machine-gunned as they ran. Fifteen of them were killed, eight were seriously wounded, almost all their equipment was gone, and without food or shelter they were alone on this barren island except for the enemy.

They took the wounded into empty Barentsburg, where they found some tinned food and some blankets left behind at the time of the evacuation. Digging beneath the snow, they found some perfectly preserved pigs which someone remembered the Russians having slaughtered before they left, and they got a radio transmitter working with which they called for help.

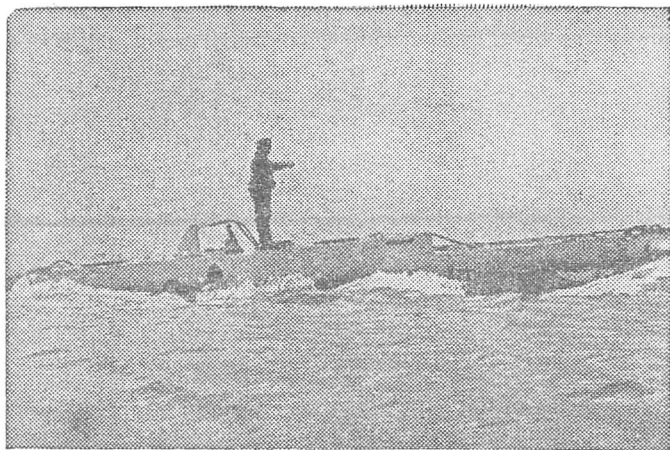
Catalinas came, dropping supplies, and by the end of June the ice had melted and it was possible for the flying boats to alight on the water and take away the wounded. Danger to the German post seemed to be over, but a few days later the meteorologists there signaled that between fifty and a hundred men had landed and established themselves ashore.

This threat caused the Germans to move, while British flying boats, and later ships, brought help to the Norwegians who had landed. These latter then began a hunt for the Germans, whom they found and chased away from their transmitting station, which for the time being had been working simultaneously with the Norwegian one. Finally the Germans gave up, and sent a submarine to fetch the weather reporters home.

The Norwegians continued their transmissions, and to stop them the *Tirpitz*, *Scharnhorst*, and ten destroyers were ordered out. It was the last real German squadron ever to go to sea, and to adapt the saying, the Germans were sending twelve men to do a boy's job.

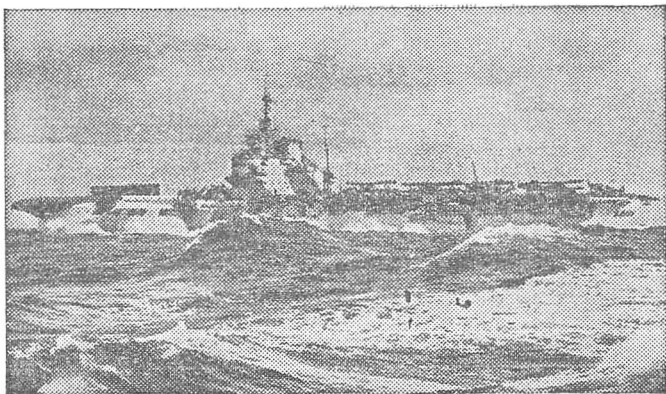
Steam was raised in all the boilers of the big ships for the first time for a long interval and then the force went to sea. The *Scharnhorst* had not been out of Norwegian coastal waters since her arrival in northern waters in the previous March, and the *Tirpitz's* last trip into the open sea had been her attempted attack on convoy PQ 17 in July of the previous year, fourteen months earlier.

Now the eight 15-inch guns of the *Tirpitz* and the nine 11-inch guns of the *Scharnhorst* were ready to enter into action against the Norwegian shore battery of two 3-inch guns. It was the only time in her life that the *Tirpitz* fired her main armament low-angle in earnest. One salvo from the *Scharn-*



A British midget submarine. Two such craft got inside *Tirpitz's* torpedo nets and laid heavy charges under her hull.
—*Imperial War Museum.*

H.M.S. *Victorious*. Her planes repeatedly attacked *Tirpitz* in her Norwegian bases and were in on the *Bismark* kill.
—*International News Photos*



horst put the Norwegian battery out of action, and the landing parties went ashore.

At Barentsburg there were two 40-millimeter anti-aircraft guns which fired, between them, 150 rounds at the German destroyers, before their crews and the rest of the tiny garrison withdrew under cover of a blazing coal dump which had been set on fire by the German shells.

The Germans set to work to shell systematically everything in sight, and by eleven o'clock that morning were finished. The landing party brought away a dozen prisoners, while the rest of the garrison were left in the ruins to bury their six dead comrades and to get the transmitter in working order, "confident," says a French commentator, "that the English navy would not desert them"; and, indeed, ships of the Home Fleet escorted by the battleship *Anson* brought supplies to them in time for the onset of winter.

The German ships were back at Altenfiord on the day after the landing on Spitzbergen, and an incident occurred which on the surface was quasi-ridiculous, but it revealed a serious state of mind. A bitter dispute broke out between the crews of the *Scharnhorst* and *Tirpitz* over the allocation of Second-class Iron Crosses. The men from the *Scharnhorst* who had behind them the tradition of the commerce-raiding expeditions in the Atlantic, the Norwegian campaign, and Operation Cerberus were scornful that there should be a general distribution of Second-class Iron Crosses for such a trifling affair as the Spitzbergen raid, and said so, offensively.

The *Scharnhorst's* men thought of themselves, with some reason, as the pick of the German surface fleet, and their ship had much the same prestige that H.M.S. *Hood* enjoyed in Britain. By and large she had always been a happy ship, while the *Tirpitz*, judging from her survivors and others, never was. The officers of the *Scharnhorst* used the threat of drafting to the *Tirpitz* to keep their more unruly elements in order, and the threat was regarded seriously by those to whom it was made.

Tirpitz was reported back in Kaafiord, which is a branch of Altenfiord, from Spitzbergen on the morning of September 10 by an R.A.F. photographic reconnaissance unit which had been sent specially to north Russia to keep watch on the ship. In this unit there were Mosquitoes for the preliminary reconnaissance, there were Spitfires at Vaenga for the last-minute

sorties, and there were Catalina flying boats to run a shuttle service between north Russia and the United Kingdom with the latest photographs.

All this air activity and a good deal more had been laid on as part of the next attempt to settle finally with the *Tirpitz*.

ATTACK BY X-CRAFT

All through the First World War the Allies had had to watch enemy fleets lying impregnable in their harbors, without its being possible to attack them.

Only at the very end of the war was there any indication that the problem of attacking big ships in defended harbors could be solved. A group of Italians whom we should now call frogmen succeeded in getting into Pola harbor and sinking the Austrian flagship, the battleship *Viribus Unitis*. On the night of November 1, 1918, they were taken by a small boat, propelled by an electric motor for the sake of silence, to the boom guarding the entrance to the harbor. Getting in the water, they swam to the boom, pushing before them a raft loaded with explosive charge enclosed in waterproof wrappings. They climbed up on the boom, dragging the raft with them, and then launched it again on the other side, in the harbor. They set out swimming with the raft once more—what happened next varies in the Italian and in the Yugoslav accounts of what was, in any case, an extremely brave deed. The Italian account simply says that the men swam to the *Viribus Unitis*, affixed charges to its hull, were detected, fished out of the water, and placed in the cells of the battleship, while the time fuse of the charge ticked away outside the hull.

The Yugoslavs add the detail that the day before the Austrian fleet had changed sides, hauled down the Austrian colors and hoisted those of the unborn Yugoslav kingdom. Admiral Horthy, who had been the Austrian C.-in-C., had gone on shore, leaving the senior Yugoslav officer of the fleet in command. The war was clearly coming to an end, and either from sheer carelessness or by way of celebration the harbor was lit up as in peace time, according to the Yugoslav accounts.

However that may be, just before the charges went off the

Italians gave warning of the fact, so that the crew of the *Viribus Unitis* could get clear. This some of them were able to do. The admiral of a day was not amongst them.

The use of frogmen was clearly a method of attack which could only be used in confined quarters, but at the same time the Italians were also engaged in experiments with midget submarines which could be used at greater distances.

We remembered this when Italian swimmers in the autumn of 1941 made successful attacks against our ships in Gibraltar and Alexandria. In both cases swimmers, that is, genuine frogmen, were used. Those at Gibraltar operated from Italian merchant ships in Spanish territorial waters across the Bay, and at Alexandria they were brought to the spot by submarine.

Meanwhile, we had been working on the same problem ourselves from a different angle, and our first midget submarine was ready at the beginning of 1942. Further boats were ordered, while we began to train their crews—a nerve-racking business to an outsider at least, for the ordinary hazards of navigation in an X-craft, as the midget submarines were called, seem to have been almost as great as the perils which they encountered when they attacked the enemy.

The building and operation of the X-craft were a real tax both on engineering resources and on manpower. No one has so many good submarine crews that they can be wasted on unproductive jobs, but in fact the need to provide the X-craft with an adequate manning pool meant that many good men were kept from the service against the enemy for which they were best fitted. This was just another item in the vast cost of the *Tirpitz's* mere existence to the Allies, for, of course, she was by far the most important target against which the X-craft could be used.

By the time midgets were ready and the days were the right length with neither too much light nor too much dark, it was September 1943.

The X-craft were submarines, forty-eight feet long, with a maximum diameter of five and a half feet, except under the periscope, where it was just possible for an average-size man to stand upright. The crew was four men. The plan was that normal-sized submarines should tow six X-craft submerged from their base in the north of Scotland to Altenfiord, a distance of about 1,000 miles. Each boat had two crews, one for the passage and one for the attack. Arrived off the entrance

to Altenfiord, the attack crews, having traveled in the towing submarines, were to take the place of the passage crews and the six X-craft were to enter the fiord.

Three were to lay explosive charges under the *Tirpitz*, two under the *Scharnhorst*, and one under the *Lützow*, which were also expected to be in the fiord.

On September 10, *Tirpitz* was reported back in Altenfiord from the Spitzbergen raid, and on September 11 the X-craft sailed. The passage was uneventful until the 14th, the X-craft surfacing to ventilate three or four times every twenty-four hours.

On September 15, a Catalina flew from Russia to the United Kingdom with pictures taken over Altenfiord by the Spitfires, showing the latest positions of the net defenses, which were then signaled to the submarines heading for the fiord.

Two of the X-craft (*X8* and *X9*) were lost on the way north, and a third, *X7*, had a narrow escape when a mine became entangled with her towing wire and threatened to crash against her hull. However, her Captain, Lieutenant B. G. Place, succeeded in kicking it away.

One of the towing submarines, the *Syrtis*, had an annoying experience of a different sort. She sighted a U-boat, homeward bound, within easy range, but could not fire as she was under orders not to attack anything smaller than a capital ship, in order that the enemy should not be warned that something special was on foot.

This was an extension of a general order that submarines patrolling off the north Norwegian coast should not fire on smaller vessels, but keep their torpedoes for use against heavy ships and U-boats.

Four out of six boats got within striking distance of Altenfiord, but then one, *X10*, broke down before she could attack and eventually had to be scuttled after her attack crew had been on board her ten days.

The lines used for towing had given trouble through the trials and stronger ones had been designed. Unfortunately only three were ready by the time the X-craft sailed.

All three new lines held, and the old ones all broke.

The three boats that were left were all destined for the attack on *Tirpitz*. The *Scharnhorst* and *Lützow* were not at their berths, the former being engaged in gunnery practice in a neighboring fiord and the latter having her engines repaired in Germany. *X5* approached the nets surrounding *Tirpitz* and

was lost—no one knows how. Two boats, *X6* and *X7*, out of the original six thus survived to carry out the attack. *X6*, commanded by Lieutenant Cameron, entered the nets first. Afterwards Lieutenant Cameron said that they had spent the night before the attack dealing with mechanical defects and listening to the B.B.C. and to German harbor craft passing in the neighborhood. They managed to get through the outer nets and then found a gap in the inner net. German sources later stated that the gap had been left open for boat traffic because the telephone line through the entrance had broken down and there was no means of communicating other than by boat.

Natural obstacles gave *X6* more trouble than the artificial ones in the shape of German nets, for once she was inside the defenses of *Tirpitz* she ran aground on a sand bank and almost immediately her periscope was spotted from the German ship by men cleaning the guns.

Somebody yelled "Submarine!" and, fascinated, the Germans saw the periscope moving slowly toward them. Then the little submarine came to the surface, water streaming from her hull. She was about fifty yards away, which was too close for any of *Tirpitz's* guns to bear.

The sentry at the gangway opened fire with his rifle, and other people opened up with revolvers and started throwing hand grenades. Bullets were whistling all around, but nothing happened to the submarine, which was coming nearer and nearer.

The only man among the Germans who had any idea of what to do was Sub-Lieutenant Leine, who collected two or three men and dashed down the gangway into a launch alongside, started it up, and headed for the submarine, throwing hand grenades as he went. He got a line round the conning tower of *X6* and started to pull her away, backwards, from *Tirpitz*, but the submarine was stronger than the launch, and kept on toward the battleship, pulling the launch backwards.

Then a hatch in the submarine's hull opened, and four men came out, in leather overalls, covered with oil. Very coolly they got into the German launch. The submarine began to sink, but she was still moving toward *Tirpitz* and finally sank right alongside.

Captain Meyer, the Commanding Officer of the *Tirpitz*, immediately ordered divers to go down to see if they could find out what the submarine had been doing.

Then another submarine was sighted, the alarm rattlers

went, and the light automatic weapons opened up. They saw the X-craft for a moment, surrounded by shell splashes—then it disappeared.

This was X7, trying to get out of the nets after having laid her charges underneath *Tirpitz*.

The crew of X6 were taken below to the ship's regulating office and given coffee and schnapps. German accounts speak of them constantly looking at their watches, which is not surprising, since they had laid their charges under the ship and they were due to go off within a few minutes. The Germans began to question them.

Meanwhile, on the bridge, the first idea of Captain Meyer was to get out of the nets and into the fiord, as he thought mines might already have been laid. When the second submarine was seen, he changed his mind, for he had no means of knowing whether or not there were more British submarines outside the nets, waiting for him to come out.

Accordingly, he decided to stay where he was, and to change the ship's position slightly by heaving on one anchor in case mines had been placed on the bottom of the fiord underneath his ship.

At 0812 the mines went up, four of them, each weighing two tons, and the log of *Tirpitz* records:

"Two heavy consecutive detonations to port at a tenth of a second interval. Ship vibrates strongly in vertical direction, and sways slightly between the anchors."

The ship rose suddenly several feet in the water and fell back with a slight list. All the lights went out, watertight doors jammed, gear of all sorts fell down, while fire extinguishers wrenched from the bulkhead started belching foam. Men who had been standing up went flying off their feet, and the whole ship was in an uproar.

Meanwhile X7, trying to escape, had been caught in the nets. It had taken her longer to get through than had been expected, but it had been done and the mines laid. Then had come the task of getting away before they exploded. The boat was too deep to use her periscope, and her compass was out of action, so that it was only possible to steer by guesswork. In the course of the next three-quarters of an hour, X7 was in and out of several nets. Lieutenant Place afterwards said: "At 0740 we slid over what we hoped was the last one, so that it was extremely annoying to run into another. Shortly after this there was a tremendous explosion which evidently shook us

out of the nets. On surfacing it was tiresome to see *Tirpitz* still afloat."

X7 surfaced alongside its target. Place scrambled out from his position by the periscope, but before the others could follow him, X7 sank. One member of the crew escaped later by means of his Davis escape apparatus.

Place and Cameron both received the Victoria Cross on their return from a German prison camp after the war.

The Germans raised X7 later from a depth of about 120 feet and were startled to find out from documents on board how well-informed the crews of the X-craft had been about the *Tirpitz*, her position and life on board, information which the Germans assumed to have been received from Norwegian resistance groups.

The attack had been at the most propitious moment of the day, for the guns were being cleaned and a good proportion of them were out of action at any one time. The Germans ascribed this choice of time to the detailed information we had about life on board the ship, but in fact it appears to have been a lucky accident.

Shortly before the attack, the Germans had received warning that something was about to happen. This information came from a sinister agent of the SS's own intelligence service—the *Sicherheitsdienst*. This man, Henry Rinnan, son of a Finnish father and a Lapp mother, had obtained, probably by the arrest and torture of a resistance member, some knowledge of the code used in communication between Norway and the United Kingdom. From this he discovered that a special mission was being sent from Britain to Altenfiord, and he had warned the German naval authorities.

After the liberation of Norway Rinnan tried to escape to Sweden, was caught, tried, and executed at Oslo on February 1, 1947.

When Place had seen *Tirpitz* immediately after the explosion of the charges he was disappointed to find her still afloat, but she had been badly damaged all the same.

One of the turbines had been shaken from its bed, and "C" turret, which weighed about two thousand tons, had been lifted by the force of the explosion, which had taken place directly underneath it, from off the roller path of ball bearings upon which it rested, dropped down again, and jammed. This was something that could not be put right without a visit to a German dockyard, for no floating crane could undertake the

task of repairing the jammed turret. In addition all the range finders and the fire control gear were out of action. Although this damage could be repaired on the spot it would take a long time.

On September 24, Dönitz reported to Hitler that the attack had taken place, and the two men agreed that the ship should not be brought to Germany for repairs, partly because of the risk of her being permanently crippled by air attack as the *Gneisenau* had been, and partly because it was hoped that the British authorities would not know for sure that the ship was out of action, and accordingly would still keep ships concentrated to deal with her.

To the aid of the *Tirpitz* the Germans sent the repair ship *Neumark* to Altenfiord, together with the former Hamburg-America liner *New York* which served as accommodation ship for the specialist workmen who night and day were occupied getting the ship ready again. The fire-control system was put in working order and the holes blown in her bottom were repaired, but a number of the frames of the hull which had been damaged had to be left as they were, as their replacement would have required the *Tirpitz* being dry-docked, and there was not a dry dock within a thousand miles.

Damage to the frames meant that the ship was no longer able to steam at full speed, so that the X-craft attack had crippled the ship for the rest of her life. This we did not know, so preparations had to be made to settle with her definitely.

On November 22, two months after the attack, the SKL received from the Northern Naval Group Commander the report that:

“As a result of the successful midget submarine attack on heavy units of the task force the *Tirpitz* has been out of action for months.”

THE LAST GREAT SURFACE BATTLE

The *Scharnhorst* now was the Germans' only effective capital ship. With the coming of winter the Arctic convoys were resumed. The German position on the Eastern Front was now worse than it had ever been, and the Russians were getting nearer to the frontiers of the Reich.

By the middle of December 1943, since the restarting of the convoys seventy-four ships, eastbound and westbound, had passed *Scharnhorst* at Altenfiord. The SKL was anxious that something be done about it. There was a new Commander of the task force with his flag in the crippled *Tirpitz*, Rear Admiral Bey, who had succeeded Admiral Kummetz temporarily when that officer had gone on long leave because there seemed no prospect of the *Scharnhorst* achieving anything useful in the immediate future.

Bey had made a name for himself as a destroyer leader during the attacks on the PQ convoys of the previous year, and it was he who had been in command when the *Edinburgh* was sunk. Kummetz, on the other hand, had been accounted an unlucky officer ever since his flagship the *Blücher* had been sunk at the beginning of the Norwegian campaign.

After some hesitation Dönitz approved an attack on the ground that "the army's hard-pressed position in Russia and the growing importance of the supplies to Russia" made it imperative. At the same time, however, it was laid down that *Scharnhorst* should break off action if a British capital ship was sighted.

Before the *Scharnhorst* sailed on her last voyage a suggestion that the German destroyers, of which there were five available at Altenfiord, should make an attack by themselves was rejected. At the same time *Scharnhorst* was deprived of

whatever support she might have had from *Lützow*, as that ship was having her engines overhauled. It was easy for the Germans to guess that another convoy was about due. Eight U-boats were disposed between the Norwegian coast and Bear Island, and arrangements were made to fly reconnaissances. Christmas Day did not dawn, of course, in that latitude but the sky grew a little lighter towards midday. A southwest gale blew, interfering with reconnaissance, and immediate action seemed unlikely. On board *Scharnhorst* the Captain's rounds were much less formal than usual and became almost part of the Christmas celebrations, for Captain Hintze was a popular Commanding Officer. He went through the crew space wishing the men a happy Christmas and watching them undo their gift parcels and letters from home alongside the brightly lit Christmas trees which decorated each mess. When he saw that anyone was short of cigarettes he ordered the deficiency to be made up from ship's stores.

Later on some members of the crew went ashore to ski in the noon twilight and were still there when the recall went at one o'clock in the afternoon. A German weather plane had sighted a convoy of about twenty ships, first thought to be an invasion force bound for the Norwegian coast and then recognized for what it was—another convoy on its way to the White Sea ports. The escort was reported as consisting of three cruisers and a number of destroyers.

This was the only British force of whose presence in the neighborhood Bey was definitely sure—and it must have made him even more eager to attack, for three cruisers would not stand much chance against *Scharnhorst*. By an act of incredible folly a further report that a British battleship was possibly also in the neighborhood was never passed on by the Air Officer Commanding to whom it was made, on the ground that the observer concerned should stick to facts and not attempt to guess at what he had seen. Yet another sighting report was not handed over by the Luftwaffe to the naval authorities until two days after *Scharnhorst* had been sunk.

It will thus be seen that, after four years, war liaison between the Luftwaffe and navy was still as bad as it could possibly be. This was a state of affairs for which Göring must take most of the blame, for his subordinate commanders had been quick to adopt his attitude of contemptuous neglect toward the surface fleet. It was not only the Luftwaffe that was inefficient on this occasion. *Scharnhorst* made a mistake in her

position which meant that she lost her own destroyer escort in the darkness and it stayed lost throughout the action that followed, except for a brief engagement between one of its members and a straggler from the convoy. The fact that the German ships had been so little at sea in the past months meant that mistakes made through lack of sea experience were common. This circumstance illuminates the "fleet in being" theory from another point of view—not only were ships needed but trained crews as well.

So in bad weather *Scharnhorst* steamed out into a vast trap. As she headed out north of the North Cape to intercept the convoy coming up from the southwest, the 35,000-ton battleship *Duke of York* was gradually getting between *Scharnhorst* and her base. This ship was flying the flag of Admiral Sir Bruce Fraser, who had followed Sir John Tovey as C.-in-C. of the Home Fleet. With the *Duke of York* were the cruiser *Jamaica* and four destroyers. These ships were known as Force 2. Force 1 was made up of the three cruisers which the German reconnaissance plane had seen *Belfast*, *Norfolk* and *Sheffield*, under Vice-Admiral Burnett. They stood further north to cover the passage of not one, but two convoys, JW 55B going to Russia loaded and RA 55A coming back empty.

Admiral Fraser knew that there was at least a good chance of *Scharnhorst* coming out on his way from Iceland to his position on December 26 off the North Cape, and had been exercising his ships in dealing with *Scharnhorst* if they did catch her, using *Jamaica* to simulate the German.

At 0339 on the morning of December 26, Admiral Fraser received a message from the Admiralty saying that the *Scharnhorst* was believed to be out. Looking at his dispositions, he could say reasonably that the stage was well set, except that if *Scharnhorst* attacked at daylight and immediately retired he was not yet sufficiently close to cut her off.

At 0840 Force 1, the three cruisers, picked up by radar the *Scharnhorst* between it and the convoy JW 55B, which in the meanwhile was steaming away from the *Scharnhorst*, at that time thirty-six miles distant. The British cruisers and the *Scharnhorst* were 35,000 yards apart when the first radar contact was made, but not until 0921 was the *Scharnhorst* actually in sight—for the intervening forty minutes radar did the tracking. At 0924 fire was opened and the last action between big surface ships in the European war had begun.

At this stage, only the 8-inch guns of the *Norfolk* were ef-

fective and they were opposed by the *Scharnhorst's* 11-inch armament. The *Norfolk* scored the first hit of the battle. Short of sinking the *Scharnhorst* with a single broadside—a virtual impossibility—the *Norfolk* could hardly have done better than she did, for her second or third salvo carried away the German's main radar antenna and put her port high-angle fire-control director out of action. With the radar gone the Germans had to fight blind in the darkness of the arctic winter day. At this stage the destroyers that had left Altenfiord with *Scharnhorst* would have been invaluable for scouting with their own radar, but they had got lost.

Admiral Burnett's first concern was to place his three ships between *Scharnhorst* and the convoy, and to gain what little advantage there would be from the light. *Scharnhorst* led off by steaming south away from the convoy, and then she began to work round to the north, clearly with the idea of getting away, so that she could reappear later and attack the convoy while Force 1 was left behind. This was quite possible, as the weather was so bad that the speed of the British cruisers dropped and the bigger *Scharnhorst* was crashing through the storm somewhere between four and six knots faster than her enemies. Under the circumstances Admiral Burnett saw little chance of shadowing the *Scharnhorst*, gave up the chase, and steered to join the convoy. Even if he had had the speed to keep up with the enemy the convoy had to be uppermost in his mind. The tradition that "the convoy must go through" was dominant.

Later Mr. C. S. Forester, the novelist and naval writer, pointed out in an article on this battle which appeared in the *Saturday Evening Post* that the loss of one of these Russian convoys could delay the end of the war for a month. Weighing matters in the dark, noise, and icy confusion of battle and storm, Admiral Burnett made up his mind that the convoy had to be safeguarded.

As the British and German ships separated, *Scharnhorst* received a personal order from Dönitz: "Attack and destroy convoy to help your comrades in their struggle on the Eastern Front."

On his way to the convoy, Admiral Burnett was joined by four destroyers detached from the convoy escort by order to Admiral Fraser, the *Musketeer*, *Matchless*, *Opportune*, and *Virago*.

These ships were to play a big part in the action later, but

for the time being there was a lull metaphorically only; the weather continued noisy and ferocious.

At 1058 Admiral Fraser signaled:

"Unless touch can be regained by some unit there is no chance of my finding the enemy."

For the time being there was no touch. Force 1 took position ten miles ahead of the convoy, while the *Duke of York* headed eastwards, but away to the south. Then at 1137 the *Norfolk* reported a contact at 27,000 yards—contact that could only be an enemy ship. Then she lost it, and the hopes that had leaped up sank down again. Admiral Fraser had more worries and comments: "At about noon I found myself in a difficult position on account of the destroyers' fuel situation. . . . If the enemy had turned for home by this time there was obviously no chance of my catching him."

Then the situation was turned upside down when at 1205 the *Belfast* signaled: "Enemy 30,500 yards, bearing 075."

Admiral Fraser comments: "I knew now that there was every chance of catching the enemy." This was not the first time that the *Norfolk* had tracked a German battleship with her radar, for it was she, with the *Dorsetshire*, who had followed the *Bismarck* to her doom.

Fifteen minutes later *Scharnhorst* was in sight, and an action followed which lasted some twenty minutes, at the end of which *Scharnhorst* again withdrew and headed off down to the south followed by the cruisers of Force 1. Bad weather prevented destroyer attack, and the *Norfolk* was hit and caught fire. The chase went on. The British cruisers ceased firing and Admiral Burnett later said in his report to the Commander-in-Chief: "Realising that the enemy up-to-date had been most obliging, and that if he continued to act as he was doing he would run into you, I decided to withhold fire until you had engaged in order to avoid scaring him with a drastic alteration of course." This was important, for as Admiral Fraser points out: "Had *Scharnhorst* turned west and headed either for the convoy or Altenfiord neither *Duke of York* nor my destroyers could have kept up against the high seas."

In the *Scharnhorst* herself, everybody was tired out, but the general impression on board was that it was merely a question of steaming at thirty knots in order to return safely to base and resume the interrupted Christmas. For a while the chasing was being done only by *Belfast* and the destroyers, for *Sheffield* had

engine trouble, and *Norfolk* was on fire, so that they both dropped back.

All this time the *Duke of York* with the *Jamaica* and four destroyers, *Saumarez*, *Savage*, *Scorpion*, and the Norwegian *Stord*, were heading east, while *Scharnhorst* came on down south. On board the British ships bad weather and the need to keep hands at action stations meant that conditions were somewhat primitive. Action messing in *Duke of York*, at least, had meant that dinner had consisted of pork chops eaten with bare hands.

At 1640 the British and German battleships met, and Admiral Fraser ordered:

"Illuminate Target."

The *Belfast*, which was there still following the *Scharnhorst*, opened fire with starshells which burst behind the enemy as seen from the *Duke of York*.

This was the turning point of the action. The *Scharnhorst* was caught with her guns trained fore and aft, since, with her radar out of action, she had no means of knowing from which quarter the enemy would appear.

When the *Duke of York* opened fire, heavy gun-flashes were reported over the broadcasting system of the German ship, but the majority of the crew still thought they were only opposed by cruisers. Then came the order: "Main turrets load with armor-piercing ammunition," and they knew that they were up against a heavy ship. The *Scharnhorst* was flooded with starshell, and the short-range anti-aircraft armament was ordered to try to shoot it down.

The British ships were between *Scharnhorst* and her base, so that the only thing the German ship could do was to turn east, away from home, with the British in hot pursuit. The action settled down to a gun duel between the 14-inch guns of *Duke of York* firing 1,400-lb. shells and the 11-inch guns of *Scharnhorst* firing shells of about half that weight. There was only a dim twilight, with the Northern Lights behind the clouds.

To those of *Duke of York* watching the engagement in the light of the starshells *Scharnhorst* seemed of enormous length, silver-gray in color. She was replying to *Duke of York* with ripple firing. The deep orange flashes of her guns started from the foremost turret, then came from the second turret, and finally from the stern. British hits on her gave a greenish glow along the waterline, and appeared as vivid red-orange flashes

when hitting her at upper-deck level. The *Sheffield*, hurrying up astern as fast as she could, watched the firing, and reported later:

"At no time could the target be seen clearly, being merely a grey shape slightly darker than the background. Her gun-flashes appeared to persist for a second or two and then to shrink back towards their centre. Some of the enemy shells appeared to burst on impact with the water, leaving a reddish glow for two or three seconds."

In *Scharnhorst*, the foremost turret was put out of action and a fire started which spread to the next turret. The magazine was partially flooded, and the handling crews were floundering up to their waists in freezing water, rescuing sound ammunition and continuing to serve the guns. Later, the magazine was pumped out.

By eight minutes past five *Scharnhorst* was steady on an easterly course and engaging *Duke of York* and *Jamaica* with her main armament. Her tactics were to turn to the southward, fire a broadside and then, in order to reduce the area of the target she presented, turn end-on away to the east until ready to fire again. This made *Duke of York's* gunnery a difficult problem.

As the chase began, Force 2's four screening destroyers crept slowly ahead in order to make torpedo attacks. *Savage* and *Saumarez* were on the port quarter of the enemy, and *Scorpion* and *Stord* to starboard. They were gaining very slowly, for in the heavy sea the big German ship had an immense advantage, and it soon was pretty clear that they would not be able to catch her unless the guns of the *Duke of York* could damage her so badly that she would have to slow down.

From the gunnery control tower of the British flagship a fairly considerable fire appeared to be burning well under the after-superstructure of the German ship, and this was used as the point of aim, until it disappeared, to the intense disappointment of the British gun crews. In the meanwhile one salvo appeared to strike the quarter-deck of the *Scharnhorst* complete.

It was possible for the British to watch by radar the *Scharnhorst* replying to their fire, for the salvos from her main armament could be seen on the screen emerging from the target echo. The Gunnery Officer of the *Duke of York* commented afterwards:

"The visible approach of the enemy salvos had no effect

other than stimulating interest in the operations, and I learned about each salvo from a cheerful voice of warning saying to me 'One's coming.'"

Scharnhorst's gunnery was erratic to begin with but improved in speed and accuracy, until at between 17,000 and 20,000 yards *Duke of York* was frequently straddled and there were many near misses, both masts were pierced, and the radar cables running up them were cut.

"The gun duel . . . continued until 1820 when the *Scharnhorst* ceased firing at 20,000 yards, probably due to a hit by *Duke of York* which reduced her speed," says Admiral Fraser in his report.¹

On board the German ship, in the second turret, a hit had put the ventilating system out of action and conditions were soon unbearable. Every time the breeches of the guns were opened, thick black smoke belched out, blinding and choking everyone and putting a number of men completely out of action. In spite of powerful lamps it was impossible to see anything more than a yard away. Guns' crews had to shout their orders at each other, and in doing so filled their lungs with choking cordite smoke. This, together with the motion of the ship, combined to make almost every man in the turret violently seasick.

In the 5.9-inch turrets and the 'tween decks things were horrible, with torn bodies swilling around in a mixture of blood and sea water, while the stretcher parties picked their way through the wreckage with ever increasing numbers of wounded.

The effect of all this damage on the speed and fighting power of the *Scharnhorst* was not immediately visible in *Duke of York*, and Admiral Fraser still had a few more anxious moments through which to pass, for, as he reported afterwards, it seemed quite probable that *Scharnhorst* would escape and much depended on his four S-class destroyers. On the radar screen he watched them very slowly gaining on the German battleship.

"By 1820 they had closed to 12,000 yards," he wrote, "but were gaining little. Then they started forging ahead and this must have been due to *Duke of York's* hits which reduced *Scharnhorst's* speed.

"I had already decided to turn towards the Norwegian coast,

¹ Supplement to *The London Gazette*, August 5, 1947.

hoping the enemy would also lead round and so give my destroyers a chance to attack. However, when I saw *Scharnhorst* slow down I turned in straight for her."

It had been bold to plan a turn away from the direct pursuit of the enemy, with the hope that a relaxation of the chase would lead him to dash for home and thus expose himself to the destroyers.

As it was, the destroyers' chance came without this maneuver, and they took it. *Savage* and *Saumarez* closed in. *Scharnhorst* opened a fairly heavy fire, without result, and the destroyers answered when they got within 7,000 yards. It had been a difficult job getting this close, and the destroyers' engines were steaming harder than they had ever done in their lives. The heavy seas were continually sweeping over the crews of the guns and torpedo tubes, and as both pairs of destroyers got closer and closer somebody in *Scorpion* shouted out, "Pipe hands for going alongside!" While the *Savage* and *Saumarez* were attacking from the northwest, they were also drawing the enemy's fire, making it possible for the *Scorpion* and *Stord* to come in, unseen, from the other side. It was beautiful teamwork. Each destroyer advanced and attacked in turn from about a mile away from different quarters. Each attack was designed to result in a hit if possible, but it was made in such a way that if there was no hit, it would force the *Scharnhorst* to avoid it by turning into a position in which it would be easier for the next ship to attack successfully.

Stord turned to fire—*Scharnhorst* altered course. *Scorpion* immediately turned and fired eight torpedoes at 2100 yards. *Stord* then fired her eight at 1800 yards. *Scorpion* claimed one hit. Admiral Fraser comments on this:

"*Scharnhorst* continued to alter round to starboard, thus placing the other sub-division—*Savage* and *Saumarez*—in an excellent position."

By now the *Scharnhorst* was firing wildly at the *Scorpion* and *Stord* without doing any damage. The destroyers answered, hitting her several times. The *Scharnhorst* was now so preoccupied with this pair that at 1851 she turned south and then southwest and laid herself open to attacks by the *Savage* and *Saumarez*. The *Savage* fired eight torpedoes. The *Saumarez*, under heavy fire and only able to train one set of tubes owing to casualties and damage, fired four.

Both ships came under heavy fire, which they returned.

The *Savage* was undamaged, but the *Saumarez* was hit,

shells passing through her director and under the range-finder without exploding, while splinters reduced her speed to ten knots, on one engine only. One officer and ten ratings were killed and eleven wounded.

From *Scharnhorst*, the destroyers were first seen at about 1830, but because of the bad weather they were not visible from the upper deck. The German's light armament was badly handled, but the 20- and 37-millimeter guns began firing tracer in a desperate effort to illuminate their target.

Afterwards a German survivor said:

"We were amazed at the relentless manner in which the destroyer attack was carried out. They came in at full speed to within 1800 yards or less and then fired full salvos of torpedoes. Our hydrophones warned us of their approach, but there were too many for us to dodge, and we were hit at least three times."

One of the hits was in No. 1 boiler room, and the water was soon up to the floor plates. There was another hit, and the watertight doors had to be closed, cutting off twenty-five men or more, in the stern of the ship.

At 1900 the Germans were told that there was a heavy unit overhauling them. There was an enormous amount of noise, and the explosions of torpedo hits, the bursting of the British heavy shells, and the detonation of their own main armament made it impossible for anyone in the doomed ship to be certain what was going on. However, despite the damage that they had already received, they still had no inkling how serious the situation was. Over the ship's broadcasting system the Chief Engineer reported to the Captain:

"I can maintain twenty-two knots."

The Captain answered:

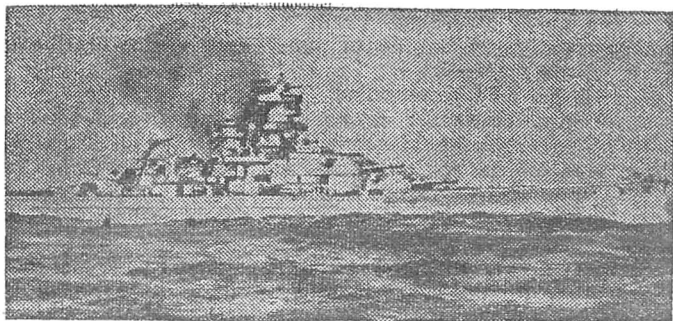
"Bravo, we'll do it yet—keep it up."

The enemy's twists and turns to avoid torpedoes had enabled the *Duke of York* and *Jamaica* to catch up, and when they opened fire again the range was only just over 10,000 yards.

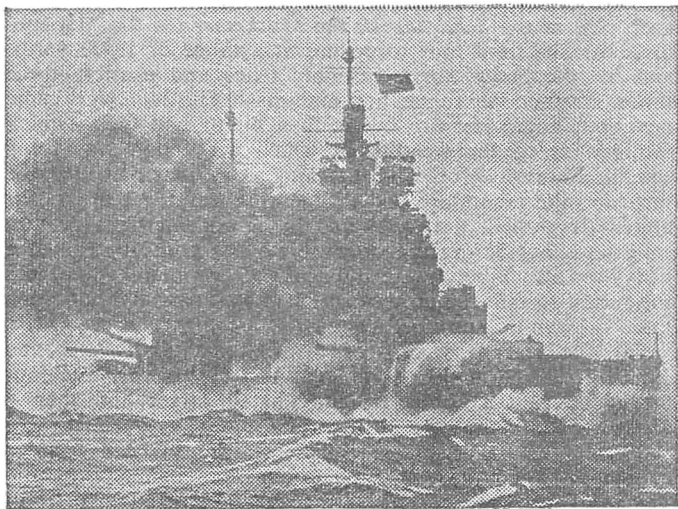
A German survivor afterwards told how he had watched the fall of British shot from the crow's nest.

"*Duke of York's* ability to follow our every movement was uncanny," he said. "We were straddled time and time again by salvos which fell so close that columns of water rose over our heads and drenched us all."

During this part of the battle *Scharnhorst* had only part of her main armament left in action—probably only three of her



On the day after Christmas, 1943, in a wild sea far north of the Arctic Circle, the two great battleships, *Scharnhorst* (above) and *Duke of York* (below), with a few smaller British ships joining in, fought the last great surface engagement of the Atlantic—probably the last of all time. *Scharnhorst* went down after ten hours of heavy fighting.—*International News Photo*



nine big guns. Two more torpedo attacks were made, this time by the cruisers *Jamaica* and *Belfast*, Admiral Fraser having given the order:

“Finish her off with torpedoes.”

No sooner had the first attacks by the cruisers been carried out with two probable hits than the 36th Destroyer Division, *Musketeer* and the rest which had been laboring up from the westward, attacked by itself. Just before this, Captain Hintze of *Scharnhorst* spoke to his crew over the ship's broadcasting system:

“I shake you by the hand for the last time—I have sent this signal to the Führer—‘We shall fight to the last shell. *Scharnhorst* Forward.’”

Then came the 36th Division's attack as Admiral Fraser ordered the enemy once more to be illuminated.

The *Scharnhorst* was now practically stopped, bathed in the light of star-shells, surrounded by white foam from explosions and from her last ponderous movements. An eye-witness wrote: “Everywhere on her sloping upper deck men were struggling with floats and life rafts, many of which had been damaged in the action.”

The four destroyers of 36th Division split into two pairs, as the S-class destroyers had done before them. Two came in on each side of the *Scharnhorst*; the *Musketeer* led the 71st subdivision. She fired four torpedoes at a range of 1,000 yards, and hit the *Scharnhorst*, certainly twice and possibly three times, between her funnel and mainmast. The *Matchless* came next, but could not fire owing to a bit of bad luck—which reminds us of the weather in which the action was being fought. Shortly before she attacked a sea had damaged the torpedo-tube mountings and strained the training gear. As the attack developed, the tubes had to be trained from port to starboard, but before the order to do this could be passed a heavy sea struck her bridge and broke all communications with the tubes, so that the order to train to starboard did not reach them in time to be carried out.

On the starboard side of *Scharnhorst*, *Opportune* and *Virago* attacked at the same time. The *Opportune* fired four torpedoes at the brilliantly illuminated target and then a second salvo, claiming in all two hits.

Virago came in, a brand-new ship, which had only arrived at Scapa Flow from her builders less than two months previously. Over 70 per cent of the ship's company had never

been to sea before joining her. The ship was very wet and very cold, and heavy, green seas were continually breaking over the bridge and the director control tower, about forty feet above the waterline. The *Virago* fired seven torpedoes and saw two hits. Nevertheless, the *Scharnhorst* was still afloat when the *Virago* turned away and opened fire on her with 4.5-inch guns.

There were now three cruisers and eight destroyers close to the *Scharnhorst*.

The *Jamaica* was ordered in to finish her off with torpedoes. Later the petty officer in charge of the starboard tubes gave this account of what happened from the time the order was given over the broadcasting system.

"I looked out. I could see a fire just off the starboard bow and a long way away. Shells were still going in that direction. The tubes were ready and the crew were singing their favourite song, 'Stardust.' I didn't feel like singing, but I joined in as it broke the spell of waiting. . . . A star-shell broke over us which turned night into day. The ship then turned to bring the port tubes on and then I heard them fired. I thought to myself, 'Starboard tubes next—that's me.' The ship swung round and I could see the *Scharnhorst* not very far away. Two columns of smoke were rising from her, one on each side of her funnel. Our torpedoes were fired one after the other. My work was finished, so I ordered the tubes trained fore and aft and then waited for the explosions—if we hit. Then one explosion and then another and the loud-speaker said:

"Two torpedoes have hit."

"A great cheer went round the ship. Then the loudspeaker went again—'Scharnhorst believed sunk: *Jamaica* has been ordered to search for survivors.' I thanked God that we could do this."

Admiral Fraser in the closing section of his dispatch says:

"All that could be seen of *Scharnhorst* was a dull glow through a dense cloud of smoke which the star-shells and searchlights of the surrounding ships could not penetrate. No ship therefore saw the enemy sink, but it seems fairly certain that she sank after a heavy underwater explosion which was heard and felt in several ships at about 1945."

It was not possible to be sure about this at the time, and *Belfast* was sent in to find the enemy. She fired star-shells to try to find her, but the battle was over. At 2002 thick oil was observed on the water, and the strong reek of burnt oil

was very noticeable. Several rafts containing survivors were seen and shouts were heard.

In all there were thirty-six survivors, all ratings, from a crew of about two thousand. Few who got into the water alive survived long in that cold. Those who were rescued told how the rapidly diminishing groups of men in the black oil-covered sea, clinging to scraps of wreckage, sang the traditional, grimly sentimental German song, "On a Sailor's Tomb No Roses Bloom," as they froze literally to death.

Afterwards the British Intelligence Officers interrogated those picked up and said:

"The survivors presented a front of tough, courteous security consciousness," which indeed the great majority of German naval prisoners maintained throughout the war, even at the very end. This attitude was, of course, part and parcel of the same attitude of mind which meant that there was no serious support in the navy for the July 20 plot against Hitler. The most immediate reason for this was that the German naval officer had been taught to be unpolitical. When there was a republic, he served it, without liking it very much. Probably the majority of the officers were pleased by Hitler's accession to power since they knew that it would mean German rearmament at sea. When some at least of them saw what was really happening they did not feel there was anything they could do about it. Hitler had come to power legally, and it was their duty to serve his regime, though they might not like it, just as they had served the Weimar Republic which they had not liked either, and before that the Kaiser's regime which they had liked.

There was also in the mind of every officer, and probably in the mind of every long-service rating, the feeling that the navy had let down the Second Reich. They could, and did, think up many excuses for this, but at the bottom of their hearts was the belief that the navy had failed Germany.

They did not want history to repeat itself and the Second German War to end, as the First had done, with the collapse of the navy. And in fact, right up to the end and beyond, the morale of the German navy remained good, probably better than that of either of the other services, except for handfuls of desperadoes.

"There is no reason to suppose that they [the U-boats] would not have fought on in a losing campaign if the defeat of the German army had not brought collapse and surrender.

Their moral was unimpaired to the end," commented the British official account of the fight against U-boats.

JW 55B, *Duke of York's* convoy, was the last convoy to Russia to be menaced by a heavy enemy ship. It was the end of a phase in the naval war, a round which we had won.

The combined use of the *Duke of York*, the cruisers, and the destroyers had been something very close to perfect. Each type of ship had had an essential part to play and each type had played it.

Perhaps the most surprising thing had been the vital part played by the torpedo, for there had long been a school of thought which had considered that possibilities for the use of torpedoes by surface craft were very unlikely to occur, although, of course, the original *raison d'être* of the torpedo boats which later developed into destroyers had been the discharge of torpedoes against heavy surface ships.

However, at the beginning of the War of 1939-45 the torpedo, as far as destroyers were concerned, was undergoing something of an eclipse, and during the first months of the war this tendency continued to develop. Destroyers were considered in the first instance as defensive craft—their main role being to protect larger warships, or merchant ships—mostly against submarine or air attack. Accordingly, many destroyers had their torpedo armament reduced by half in order to accommodate extra anti-aircraft guns, and the early Hunt-class escort destroyers were built without any torpedo armament at all.

But when it came to action against heavy enemy surface ships, the destroyers in fact needed every torpedo that they could carry. Fortunately the fleet destroyers which were built during the war had been given a full torpedo armament (although there was a certain amount of criticism of this) and sacrifices made in other directions.

There was still danger and discomfort on a grand scale in these trips, but the worst was over. An idea of the amount of effort made from the time of the German attack on Russia is given by statistics published after the war by the Admiralty.

There were forty convoys to Russia in the whole war, and they carried 428 million pounds' worth of material, including 5,000 tanks and over 7,000 aircraft from Britain alone,

not counting the American contribution. The division of tonnage by years was as follows:

<i>Year</i>	<i>Approximate amount of cargo dispatched from U.K. or U.S.A. (tons)</i>	<i>Lost en Route (tons)</i>
1941	300,000	10,000
1942	1,350,000	270,000
1943	450,000	
1944	1,250,000	10,000
1945	650,000	10,000
Total	4,000,000	300,000

In that vast quantity of material there were certain categories which were outstanding in their importance to the Russian war effort, notably trucks, as anyone knows who met the Russian army in Germany at the end of the war, and various precious raw materials such as those for the manufacture of special alloys and hardened steel. The supply of completed weapons of war such as planes and tanks was not proportionally of as great importance, in view of the Russian output of these categories.

In all the controversy and unhappiness about the convoys that has gone on since the war we can let a Soviet voice have the last word.

In 1943 M. Maisky, then Soviet Ambassador in London, said: "The Russian convoys are a Northern Saga of heroism, bravery and endurance. This Saga will live forever, not only in the hearts of your people but also in the hearts of the Soviet people, who rightly see in it one of the most striking expressions of collaboration between the Allied Governments, without which our common victory would have been impossible."

Only four ships were lost between the sinking of the *Scharnhorst* and the end of the war. Total losses in outward-bound convoys to Russia had been sixty-two ships out of 792 which sailed in them during the whole war—from the home-ward-bound convoys twenty-eight ships, out of 739, were lost.

The total casualties in merchant ships were 829 officers

and men. The Royal Navy lost 1,840 officers and men, and its total loss in warships was two cruisers, six destroyers, three sloops, two frigates, three corvettes and three minesweepers.¹

¹ All the foregoing statistics are taken from Supplement to *The London Gazette* of October 13, 1950.

ATTACK BY CARRIER AIRCRAFT

Tirpitz spent the winter of 1943-44 under repair in Kaafjord, a narrow body of water leading off Altenfjord. The berth had been specially selected sometime before, as the high, steep mountains on both sides of the fiord made air attack very difficult, especially for torpedo planes, which would have been unable to come down low enough to drop their missiles.

Nevertheless, on the night of February 10-11, the Russian air force did make an attack. Fifteen aircraft, each carrying a 2,000-lb. bomb, set out. Eleven failed to find Kaafjord, but the other four got through and dropped their bombs. There were no hits, though there was one near miss. Conditions over the target had been good, with a full moon and only light opposition.

The *Tirpitz* was not ready for sea again until the beginning of April, after the X-craft attack, but at first light on April 3 she was getting ready to leave Kaafjord to run trials in Altenfjord outside.

It was dawn on a lovely spring morning, and everything seemed still, the clouds and the water motionless. The only signs of life were the opening of the nets and the beetling about of tugs, tiny in the midst of the high mountains and the long fiord. In the *Tirpitz* those who were not entirely occupied with their duties in getting the ship out of her berth and who therefore had time to reflect, felt a lightening of their hearts. Anything seemed better than sitting about in a desolate harbor, in a lonely damaged ship, a thousand miles from home. Now that the ship was at least in part repaired there was a chance of action again.

A tug came nosing alongside, and then the narrow mountain valleys echoed with the sound of scores of aircraft engines. Over the very tops of the mountains came British air-

craft. Hardly had the alarm rattlers gone when bombs came whistling down and bursting all around. There were too many hits to count, and the ship was covered by the red-brown clouds from the bursting bombs and the smoke of her own flak. Then it all stopped, the echoes died away in the mountains, and the fiord was still again. It had taken less than a minute, but the *Tirpitz* had been terribly damaged.

There were blood and bodies everywhere, and the ship was on fire amidships. Decks had been ripped up, bulkheads shattered, and the ship was full of smoke, the cries of the wounded, and the noise of escaping steam. There had been fifteen hits by bombs, 500-pounders and 1,000-pounders. Some had burst on the turret tops and literally done no more than scratch their surface, but others had penetrated the upper armored deck and, bursting below, had done great damage. None, however, had penetrated the lower, eight-inch, armoured deck, so the ship was still afloat, though over three hundred men had been killed. The attack had been carried out by aircraft of the Fleet Air Arm. It was immediately followed by a second attack, but by then the effect of surprise had worn off and less was achieved.

For the first attack on *Tirpitz* the Barracuda strikes were ready to fly off before dawn. The aircrews had had a short sleep, and some of the officers, as they got into their flying suits, were still wearing the bow ties which were the navy's concession to dressing for dinner in the Arctic in wartime.

Surprise was complete. The bombers came in from all directions, and no plane was more than a few seconds over the target. The last pilot to leave reported that the ship was covered with black smoke through which there could be seen a red glow.

The two strikes had been launched from the aircraft carriers *Victorious*, *Furious*, *Emperor*, *Searchers*, *Fencer*, and *Pursuer*. Each strike consisted of twenty-one Barracuda dive-bombers with an escort of eighty fighters. The attack had been timed to coincide with the running of another convoy to north Russia, which included the former British battleship *Royal Sovereign*, now being handed over to the Russians as part of a deal made between the Allies following the surrender of Italy.

The biggest and newest carrier taking part in this attack was the *Victorious*, whose planes had been in action against

Tirpitz in March 1942 and which in the winter of 1941-42 had been the only carrier in the North Atlantic able to watch the German capital ships.

Now the *Victorious* was back again in northern waters, after a year in the Pacific, where she had been working with the U.S. Navy at a time when the shortage of carriers there was even more acute than in the Atlantic. With her was the *Furious*, the oldest operational carrier in the world, so old that she was not to survive until the end of the war, but, almost literally, to shake herself to pieces in a final spasm of high-speed steaming in an emergency during the winter of 1944-45.

This ship had been laid down as far back as 1915 as a very peculiar sort of ship indeed. She was originally conceived, by Lord Fisher, as an enormous destroyer, but a destroyer of cruisers, not of torpedo boats, so that she was about twenty times the size of a destroyer, was armed with eighteen torpedo tubes, had two enormous guns, 18-inch, the biggest afloat in the world, and a very high speed, so that she could have caught up with, or got away from, almost any ship in existence.

Her building was hurried, and she was made and armed with all sorts of bits and pieces. Her secondary armament was spare guns from two Greek light cruisers then building at Birkenhead, and parts of ancient ships long since scrapped were built into her anatomy. When something quasi-vital inside her broke during the Second World War, the dock-yard was asked for a replacement. Back came the answer: "This fitting originated from the battleship *Neptune* broken up in 1903, and it is regretted that no spare exists." But before *Furious* got to that stage she was to live a life which ran through all the vicissitudes of naval aviation from the Royal Naval Air Service in 1917 to naval aviation of today.

The Royal Naval Air Service—the R.N.A.S.—had made its seagoing debut in 1913 under a canvas hangar on the fore-deck of the obsolete light cruiser *Hermes*. At the outbreak of war, canvas hangars sprouted on the decks of other ships, notably cross-channel steamers, small, fast and handy. In them were housed seaplanes which took off from and landed on the water, and then were hoisted on board their parent ship. These were seaplane-carriers. The next stage was ships from which it was possible to fly off ordinary land planes, which were faster and handier than the seaplanes, fitted with

floats. The first of these was the former Cunarder *Campania*, which had a sloping platform at her bows down which planes half took off, half rolled, and a similar arrangement was fitted in the *Furious* before she was completed, replacing her forward 18-inch gun.

Something had to be done to make it possible for land planes to alight on ships at sea as well as fly off from them.

The first experiments were made with landings on the sloping foredeck of the *Furious*. Flight Commander E. N. Dunning successfully landed on it. He then tried to do it again, but his plane went over the side and he was drowned.

Later, before the war ended, the *Furious* had her other, after, 18-inch gun removed, leaving her with a circular ward-room within the old barbette and a long flat deck on which planes could land. This deck ran from her stern to her funnel and bridge, immediately forward of which was the original sloping flying-off deck.

Early in 1918 *Furious* set out on her first attack on the enemy—the Zeppelin hangars at Tondern in Schleswig. This was the first time that aircraft had ever flown off the deck of a carrier to bomb an enemy ashore. It bears much the same relation to the enormous strikes of over 1,000 aircraft put in the air by the American navy's carriers against Japan in the last war as did the cannons of Crécy to the radio-controlled rockets of today—save for one thing: the cannons of Crécy were quite useless and served only to frighten every living thing on the battlefield.

The handful of planes from *Furious* succeeded in their objective, however, for the Zeppelins and their hangars were destroyed.

At the end of the First World War, the British navy had three aircraft carriers built, and two more building.

No other navies had any carriers at all, and for the time being we had an unopposed lead over the whole world. However, the lead was lost, partly because of the permanent crisis of economy in which the fighting services found themselves from 1919 to 1935, but also because of constant disagreement as to how naval air forces should be controlled.

On its foundation, the R.A.F. claimed that all aircraft, wherever they operated, should be a part of a single unified air service. The navy counter-claimed that for efficiency it was necessary to maintain the old R.N.A.S. and that all aircraft operating over the sea should be treated as ships and controlled

by sailors. Years were wasted in argument and the trial of solutions which did not work. The embarkation of R.A.F. personnel in warships to fly and look after aircraft gave endless trouble and led to real bitterness.

Finally a compromise was reached, under which the war was fought, and which still maintains. Probably it was as good as a compromise on the subject could be, although without any logic. What was decided was that aircraft operating from ships should be considered naval aviation and to come under the control of the navy, while planes which were based on land, but which operated over the sea, should be under the R.A.F., with the best possible liaison with naval authorities. These latter land-based planes were, of course, Coastal Command of the the R.A.F. However, the arrangement does not prevent the navy maintaining shore stations for air training and experiment.

Naval aviation as a whole is usually, and wrongly, described as the Fleet Air Arm, which was the name given by the R.A.F. to its naval component, which went out of business before the Second World War.

During the pre-war years, the Americans had gone ahead with their naval air service, and when finally it was decided that the U.S. Air Force should become a third service, equivalent to the army and the navy, the old U.S. Army Air Force was transformed into the U.S. Air Force, and naval aviation was left under the navy. It was a solution for which there is much to be said.

The German idea, on the other hand, was to put all aircraft in the Luftwaffe, and we have seen the effect of that as far as the German navy was concerned.

Japan stuck to separate air services, military and naval, until the end; no one approached Japan in the matter of the independence of the two services, for there the army, in addition to its air force, also wanted its own navy, and agitated for the construction of army aircraft carriers and their escort vessels, so that they could revictual their overseas bases without having to rely on the navy at all.

When the R.A.F. withdrew from ship-borne aviation there was much to be done, and the Royal Navy did not go about it in the best possible manner. Under the R.A.F. regime, the pilots of aircraft were usually air force, while naval officers did the observing—that is to say, the spotting, bomb-aiming and navigation. Thus it was that, when the R.A.F. left, practi-

cally the only naval officers with a first-hand knowledge of flying were the former observers, and it was to them that the Admiralty, also without recent experience, turned for guidance in the design of new planes. The observers thought first of "observing," so the planes which they designed were full of all kinds of "observing gear," which took a great deal off their performance, and also delayed their production. The Barracudas, used against the *Tirpitz*, suffered as much as anyone in the process; these planes were built without any forward firing guns, which was one of the reasons for a strong fighter escort. Also the Barracuda was the British navy's first dive-bomber, and when it went into service the theory and practice of dive-bombing, at least as applied to heavy armored warships, was by no means fully grasped. It was not completely understood, or at least it was forgotten in the moment of excitement, that to give a 1,000-lb. or 500-lb. bomb sufficient impetus to penetrate a thick armored deck, it was necessary that the bomb should fall from a certain height.

When the raid on the *Tirpitz* was made, however, anxious to get as close to the enemy as possible before releasing their bombs, the planes hung on too long, so that the bombs did not fall with sufficient force to penetrate the lower eight-inch armored deck. Whether these comparatively light bombs would have done so in any case is another question.

While the great argument about naval aviation went on between the Admiralty and Air Ministry, the carrier fleet languished, not because the Admiralty needed to be convinced of their value—though even so shrewd a man as Sir Herbert Richmond flatly denounced them as useless in the between-war period—but because of the shortage of money. Two ships, *Glorious* and *Courageous*, very similar to *Furious*, were converted to carriers and their guns, some of the oldest 15-inch guns in the world, taken out, and twenty years afterwards mounted in Britain's largest battleship, *Vanguard*. The *Furious* was again rebuilt, this time without a funnel so that she had a flat deck for landing which ran about three-quarters of the length of the ship, and then, lower and sloping down toward the bow, a forward flying-off deck, a two-story idea which never seems to have worked very well, although popular with the Japanese.

In addition to the *Glorious*, *Courageous*, and *Furious* there were three other carriers, two of them smaller and slower, the

Argus and *Hermes*, and one slightly larger but also slow, the *Eagle*.

It was in 1935 that the first carrier since 1918 was laid down. She was the immortal *Ark Royal*, which set the fashion for all the subsequent big British carriers. Altogether seven ships roughly of this type were built, the others being *Victorious*, *Illustrious*, *Formidable*, *Indomitable*, *Indefatigable*, and *Implacable*. After the last of these was begun, the stream of design branched into two, one branch leading to the bigger carriers, *Ark Royal* and *Eagle*, both replacing ships of the same names lost during the war, and the other to the smaller ships of the "light fleet" type, which have recently been keeping Britain's knowledge of naval aviation in combat up to date in Korean waters.

Out of the seven carriers with which we started the war, only one survived. *Furious* wore herself out, and five were sunk, so that only the *Argus* was left. She was an ex-Italian liner with two wars behind her, and was very nearly worn out herself when it was all over, and was immediately scrapped.

It had been hard going for the carriers, because in moments of emergency it had been necessary to treat these great ships, of which we had so few, as very nearly expendable. More would have been expended had it not been for the fact that the carriers of the *Victorious* type were given an armored flight deck. This saved *Illustrious* in the Mediterranean and *Formidable* in the Mediterranean and again off Japan, when carriers with unarmored decks would almost certainly have been sunk by the hits from bombs or suicide pilots which these ships received.

As naval aviation developed during the war there was of course a constant comparison in progress between the British and American carriers.

The American ships were able to carry about twice as many planes on much the same displacement as the British, which, however, had the enormous advantage of the armored flight deck, which the Americans did not possess.

In the latest carriers of both countries there has clearly been a pooling of ideas, so that the American ships are fitted with armored decks, while the new British carriers can, in proportion to their size, carry as many planes as the Americans.

While these big carriers were developing, smaller types also came into service, where quantity was more important than

quality. These were the escort carriers, of which the American navy, at the end of the war, had over a hundred, in addition to some thirty-five which were loaned to the British navy under Lend-Lease. They were about six or seven thousand tons, generally begun as merchant ships, and fitted while building with a flight deck over their entire length.

Their primary function was the escorting of convoys, but in the attacks on *Tirpitz* they carried part of the fighter escort for the Barracudas of the big carriers. These fighters on this occasion were Vought Corsairs, an American type, which had been produced by their builders as a speculation and had been taken up by the Admiralty before they were adopted by the U.S.N. When they were built they were good planes, but they did have the complication that their forward view was restricted; accordingly, when coming in to land, the pilot had to give a quick sideways jink to the machine in order to have one last look at the deck before finishing the landing blind.

Eight days after the Barracuda raid, Dönitz reported again to Hitler about the *Tirpitz*:

"This ship is to be repaired and to remain stationed in northern Norway. This course will be followed even if further damage is sustained. Regardless of how much work and manpower may be involved, the repairs must be made. After all, the presence of the *Tirpitz* ties up enemy forces."

Then Dönitz went on to say that the ship would hardly have any further opportunity for action "unless later political developments such as a falling out between England and Russia" were to bring this about. It was unlikely that the *Tirpitz* would be used in the event of an invasion, for air attacks had shown that a ship was helpless without fighter escort. Accordingly, he added, the idea of using *Scharnhorst* during the Arctic night had been basically correct.

Dönitz had in fact given up all idea of using *Tirpitz* as the backbone of an anti-invasion force immediately after the sinking of *Scharnhorst* and the action to which reference has been made in which the *Glasgow* and *Enterprise* had defeated the German force of eleven destroyers and torpedo boats.

Finally disillusioned as to the role which the German surface ships could play, Dönitz wrote:

"An action to prevent invasion can only be termed a death ride, if the enemy allows us to ride at all."

This we could not know, and on July 17 the Fleet Air Arm went back once again to attack *Tirpitz*. This time there were

the carriers *Formidable*, *Indefatigable*, and *Furious*, with forty-five Barracudas, covered by fifty fighters. The Germans had had sufficient warning, and it was necessary to bomb through the smoke screen which came from over a hundred smoke pots round the shore. All that could be done was to aim at the area in which the flak was thickest, since presumably that was where the *Tirpitz* was. Had the flak not fired it would have been just about impossible to locate the ship at all.

The carriers scored no hits, but they came back again on August 22, knowing that the big obstacle would still be the smoke screen. To cope with this the Admiralty had tried to borrow Mosquitoes from SHAEF, but this was just after the landings in France and there were none to spare. The great advantage of Mosquitoes would have been that, because of their very high speed, they might have been able to get over the target before the Germans had time to cover it with smoke.

So the *Formidable*, *Indefatigable* and *Furious* came back, with the escort carriers *Trumpeter* and *Nabob*. These ships hung about off Altenfiord for a week or so, bombing as often as they could in the hope of wearing out the flak defenses and exhausting the smoke pots.

In the meantime the Germans had rigged up a fire-control position on a mountain top between the fiord and the sea, which made it possible for them to use 15-inch guns for barrage fire, the huge shells bursting ten miles from where *Tirpitz* lay.

This was countered by the bombers coming in from another direction, and on August 24 she was hit again.

The bomb hit the bridge, bounced off, crashed through the upper armored deck, and fetched up against the lower armored deck behind the main switchboard. There was no way of getting it out whole without its exploding, so two petty officers opened it up as it stood, first using a small electric drill to get the casing off and then emptying the yellowish explosive with little wooden shovels into a big sack.

One more unsuccessful attack and the carriers went away, after the *Nabob* had been torpedoed. The torpedo burst aft with great force, and one man was blown into a ventilating shaft, through it, and out of the top of the ship's funnel, being severely injured. As the *Nabob* began to sink, one of her own planes came back, carrying a magnetic torpedo. The pilot could not drop this for fear that it would hit one of our ships. Accordingly, he landed safely on the sloping deck of

the carrier, whose stern was by now under water. The *Nabob* did not sink, but was towed back to port where, however, she was found to be too badly damaged to be worth repairing. Carriers taking part in these strikes received "*Tirpitz*" as a battle honor.

The actions against the *Tirpitz* were the high point of carrier warfare in European waters; they never reached the enormous size of those mounted in the Pacific, when 1,500 carrier-borne aircraft could be put into the air against the Japanese mainland simultaneously, but they were part and parcel of the same conception—that modern sea power working together with aircraft could do things that had never been possible even in the days of Nelson, before mines and aircraft and submarines had come to trouble the reign of the big ship.

Nelson was as helpless before an enemy fleet in a well-defended port as had been Jellicoe and Beatty in 1914-18, but the Allied carriers in the Second World War were able to send their bombs and torpedoes where shells could never reach, and it does not matter by what means high explosive reaches its destination so long as it gets there.

Time and time again the most convenient or indeed the only way of getting it there was by ship-borne aircraft, and this was so from the attack on the Italian fleet at Taranto in 1940 onwards. Gradually land-based planes became powerful enough to do, and do better, in Europe some of the things that ship-based planes had done, as the next chapter of this account will show, but there was always a role for ship-based planes. In the Far East, except when the very heavy high explosive or atom bombs were concerned, bombardment was always a job that could be better done from carriers, because land bases were so few.

This is not a state of affairs which postwar developments have so far altered. Very heavy bombers and their bases will still be needed for special tasks, in all probability until the age of the rocket weapon really arrives, but at long range, without a multitude of expensive and carefully prepared land bases, naval air power will have a capacity for rapid concentration which land-based aircraft do not at present possess.

This is partly due to the fact, sometimes ignored, that ship-based planes have a considerably better performance under certain circumstances than shore-based ones, because carriers can take their planes close to their targets, while land-based

planes flying from a considerable distance have to carry so much fuel that they are inevitably handicapped.

The foregoing is not a case for one kind of air power as compared with another, but it is an attempt to make a case for the maintenance of both kinds at the present stage of the developments of air weapons, and the arguments which support the retention of a ship-based air striking force apply even more strongly to the use of ship-based aircraft for the protection of convoys against submarines and against other aircraft.

These considerations have led the United States to maintain a force of some hundred carriers in commission and "moth-balled" and to begin the construction of new carriers of the 60,000-ton *Forrestal* class.

THE *TIRPITZ*'S LAST DAY

As long as *Tirpitz* was still afloat she might always be repaired and might once again be a mortal danger, but sinking her had begun to seem nearly impossible until there were bombs big enough to penetrate that eight-inch armored deck.

It was just about three weeks after the last naval air strike on the German ship that the first R.A.F. attack with bombs big enough to destroy her was made.

The production of these bombs and of the planes to carry them had been the work of some five years. Their full development was preceded by a long period of experiment in the laboratory and in action, a period during which other weapons had to half-do what the bombers were not yet able to do completely.

The sinking of *Tirpitz* is the climax of the present narrative, but it should be remembered that it was only one of a series of brilliant feats of arms performed by 617 Squadron, R.A.F., the famous "Dam Busters," partnered in the case of the *Tirpitz* operation by 9 Squadron.

The chain of events which was to end with *Tirpitz* upside down on the bottom of a fiord a little way outside Tromsø started at the outbreak of the war. Mr. Barnes Wallis was an aircraft designer in the employ of Vickers. In this capacity he had been responsible for the design of the Wellington bomber. Off duty his mind played with the subject of huge bomb, bombs weighing ten tons, compared with the 500-pounders which were the biggest bombs considered necessary in 1939. At the time, expert opinion was almost completely in favor of many small bombs rather than fewer heavy ones, quite apart from the fact that planes powerful enough to carry heavy bombs did not exist.

Wallis argued against this point of view and designed not

only the kind of bomb he wanted but a fifty-ton plane to carry it as well.

Finally, after three and a half years of agitation, salesmanship, and planning, Wallis got to a point where he had six-ton bombs and Lancasters to carry them.

With a special type of heavy bomb these Lancasters, in a new formation called 617 Squadron, carried out the great attack on the Mohne Dam under Wing-Commander Guy Gibson in May 1943. The "Dam Busters" had burst their first dam, with a loss of nine out of nineteen planes.

After that, the Squadron fought its way around Europe—power stations in Italy, U-boat pens and secret-weapon sites in France, canals, factories, and centers of communication everywhere in Germany—the battle honors of Bomber Command which are on no flags, and which are in danger of being forgotten with the old communiqués which announced them.

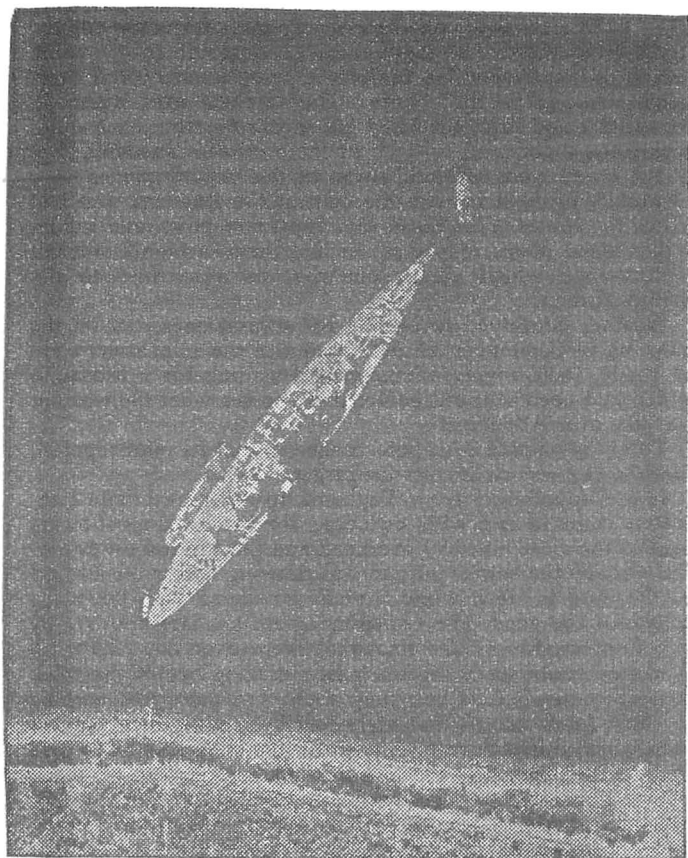
By September 1944, the political and technical preparations had been made and it was the turn of the *Tirpitz* in Norway. The first attack came between raids on Brest and the Dortmund-Ems Canal, and the two later attacks between raids on the Rhine dams at Kembs and on the E-boat pens at Ymuiden.

The bombs used on these raids were the "tallboys," made of steel with hard pointed noses which got through sixteen feet or so of concrete, and which would also get through the eight-inch steel deck of *Tirpitz*.

No. 617 Squadron was part of No. 5 Bomber Group, commanded by Air Vice Marshal Cochrane, later Air Chief Marshal Sir Ralph Cochrane, G.B.E., K.C.B., A.F.C., and Vice-Chief of the Air Staff. The Squadron Commander, successor to Wing-Commander Guy Gibson, V.C., D.S.O. and Bar, D.F.C. and Bar, and Group Captain Leonard Cheshire, V.C., D.S.O. and two Bars, D.F.C., was Wing-Commander J. B. Tait, who by the end of the war had won four D.S.O.'s and two D.F.C.'s.

Cochrane and Tait conferred; to Cochrane's mind it seemed that the experience of the naval air attacks showed that once Altenfiord was reached the biggest trouble would be the smoke from a pipeline round the shore and from scores of smoke pots, whose combined effort could put the whole fiord under smoke in eight minutes.

But before they came to that difficulty there was another, the problem of actually getting to Altenfiord, which was just



RAF reconnaissance planes kept constant watch over *Tirpitz* and when the frequently bad weather opened up, pictures like this were brought back for use in planning attacks.—*Wide World Photos*

too far away to be reached by Lancasters based in the United Kingdom.

Two days later arrangements had been made for 617 and 9 Squadrons to fly to Yagodnik in north Russia, about twenty miles from Archangel on the river Dvina, and carry out the attack from there. The flight from Lossiemouth to Yagodnik started on September 10, the planes being loaded a ton overweight with petrol and bombs. They arrived over Russia in heavy mist and rain; they had got separated from each other during the flight, and thirteen of them missed Yagodnik; but all the crews were safe and seven of the missing planes were eventually brought in with the help of the Russians who had traced the planes in the bleak wilderness and parachuted guides and medical teams to planes needing them, a highly efficient performance which came somewhat as a surprise to the British airmen.

Weather continued to be bad for several days, but on the morning of September 15 before sunrise the Lancasters were all ready, their engines running, and waiting for a Mosquito which had been sent out before dawn to see what the weather was like over Altenfiord.

The gray-painted Mosquito flashed in and its pilot reported that the sky was clear over the target.

It was four hours from Yagodnik to Altenfiord. The Lancasters came in in a wide rectangle, the black planes showing against the clear blue sky overhead and the white snow below. But already the smoke curtain was drawing across the surface of the fiord in thick white strands, powdered with the black smoke of the guns. The Lancasters were too late, too late by two minutes, for by the time they were over the *Tirpitz* all that they could see were her masts, sticking out of the thick fog. They bombed as best they could and there was nothing to show for it except that there had been some black smoke seen which might have been a hit on the ship; somebody said that he had seen Tait's own bomb hit her.

One Lancaster was lost, probably because of compass failure—a frequent source of trouble in this region on account of the iron ore in the mountains.

Nos. 617 and 9 went back to the United Kingdom. No. 617's next target was the Dortmund-Ems Canal; bombs split the canal embankment and the canal was never working again during the war.

A reconnaissance plane, a few days later, took one of the

hundreds of looks that were taken at the *Tirpitz* at Altenfiord during the years 1942-44 and found that she was gone, gone for the first time since the Spitzbergen raid, over a year before.

For a little while the ship was lost; the biggest probability seemed another raid, perhaps Dönitz's "death ride."

But it was not that kind of "death ride," though death was in the offing. A little while after the battleship was reported missing from Altenfiord a signal was received from Mr. Lindberg, a Norwegian patriot who operated a radio transmitter from a room above the morgue in Tromsø.

"*Tirpitz* in Tromsø this afternoon. Big hole in forward deck."

Tait had hit her, and now presumably she was creeping south for repairs.

Tait's bomb, aimed by Flight-Lieutenant W. A. Daniels, had gone straight through the German ship's overhanging bow and exploded on hitting the water. The force of the explosion and the huge mass of water which it raised rolled back the deck of the ship as one rolls back the cover of a tin of sardines. More serious than this was the fact that the explosion had damaged the forward frames, already strained by the charges from the X-craft, so badly that the ship could no longer steam more than six knots. This meant that she would never again be seaworthy as long as the war lasted, for she could not go back to Germany for repairs in her present state.

Only one member of the crew was killed, a man in the cells forward under sentence of death for desertion. (He had left the ship without leave and had been arrested by the police, whom he had told that he was sick of life in the *Tirpitz*, which according to him was no longer a ship but a barracks; he added that he was trying to cross into Sweden to get to England to join the British navy. Captain Weber, now the commanding officer of *Tirpitz*, and ship's chaplain, both begged him to withdraw his confession, saying that there was nothing which could be proved against him except that he had been absent without leave, but the man refused, and he was sentenced to death.)

The move from Altenfiord to Tromsø had been made because the German front in northern Norway did not look like being able to hold east of Altenfiord much longer, and under the circumstances it was decided that the best thing to do with the *Tirpitz* in her irreparable state was to place her in shallow

water where she could not sink, at some strategic point, and leave her there as a kind of fort.

After some difficulty a more or less suitable spot was found three miles from Tromsö, alongside a small island called Hakoya. Here the ship was moored, dredgers began to place an artificial sandbank directly under her keel, and some five hundred of her engine-room complement were sent ashore as they would not be needed to steam the ship again. Two anti-aircraft cruisers were brought up for defensive purposes, but the Germans knew that they might prove to be as useless as had the ten destroyers stationed for the same reason at Altenfiord.

From our point of view the most important thing about the move to Tromsö was that the *Tirpitz* was now two hundred miles nearer the United Kingdom than she had been at Altenfiord, and that meant four hundred miles off the whole journey from the United Kingdom to Norway and back. The *Tirpitz* was now just within Lancaster range of the north of Scotland, provided that a number of things were done to the planes first: they required new and more powerful engines, they had to have extra fuel tanks, and they had to be lightened by stripping them of every pound of weight that was not absolutely essential.

So Merlin 24 engines were installed, collected from aircraft all over Bomber Command; that took three days and nights of continuous work, then the mid-upper turrets were removed and the armor plating as well, and finally some long thin overload petrol tanks originally designed for Wellingtons were found, lying idle in various parts of the United Kingdom, and they were put inside the fuselages, after the necessary apertures had been made. When it was all done, what with bombs and extra petrol the thirty-six Lancasters of 617 and 9 Squadrons were each two tons overweight.

Weather and time were now closing in. At this period of the year there are about three days per month when for a few hours the sky over Tromsö is clear. Furthermore, after November 26 the sun does not rise at Tromsö at all; there would be a few days of half-light after that date when bombing at midday would be possible and then nothing at all until the spring.

The two squadrons could not be spared from the bomber offensive to wait at Lossiemouth—the nearest suitable aerodrome to Tromsö—for a clear spell to be reported by the

ever-watchful weather planes. They would have to stay at aerodromes in the south in case they were required for an operation over Germany, and then go up to Lossiemouth whenever it seemed that the weather might be going to turn out favorably.

It looked as though it might be favorable on October 28, and the two squadrons flew to Lossiemouth. A Mosquito over Tromsø signaled at midnight that the wind was veering east. That meant that the sky would clear over the target.

So off the Lancasters went to Norway at once, an hour after hearing from the Mosquito. They got to Tromsø, sighted the ship, and dived down. As they did so they saw great high masses of cloud moving in from the sea—the wind had changed, and the clouds and the Lancasters raced each other to the spot where the *Tirpitz* lay. Last time, from Yagodnik, the smoke had beaten the Lancasters by two minutes. This time, the cloud beat them by thirty seconds.

There was no going through the clouds to bomb from below, because at that altitude the great bombs would not fall with enough force to penetrate the armored deck. The squadrons bombed as best they could through the clouds, which were lit up with the flashes of exploding bombs; Tait and some of the others went on through the cloud to see what they could see. There were bombs bursting round the ship, but no hits were visible.

One of the Lancasters was too badly hit to get home and made a forced landing in Sweden.

On their return to Lossiemouth the Squadrons were ordered south, and on November 4 back to Lossiemouth, and on November 5 back again to the south. Weather was continuously awful, with gale and frost warnings.

Then Intelligence reported that between twenty and thirty German fighters had moved in to Bardufoss airfield, the nearest practicable one to Tromsø. This was bad, nearly as bad as it could be. The Lancasters would have to bomb by day for the sake of accuracy, and their .303 guns were no match for the cannon of the fighters. In the next attack they could very easily be wiped out, all of them.

Even after all the extraordinary things these planes had done and the almost incredible successes they had achieved when everything seemed against them, it still was hard to have to decide that they were to go back to Tromsø, fighters or no fighters.

But it was decided, and as soon as there was a possibility of good weather Tait was summoned from playing football with his crews and told to take the two squadrons back to Lossiemouth again. The weather report came in; there was fog in the fiords and cloud halfway up Norway. Tromsö might be clear at daylight but it might not, and there was frost about, which would mean ice forming on the planes. Each plane weighed thirty-two tons, with six tons of bombs and seven tons of petrol.

Ice, which might cripple them, was already forming before they left Lossiemouth at 3 A.M., November 12, 1944.

At an economical and therefore slow speed they crossed the North Sea, crossed the Norwegian coast, and maneuvered to come at *Tirpitz* from landward, the quarter whence they would be least expected. They used the mountains and the valleys for cover from radar as best they could, but the moment had to come when they crossed the last mountain range and in a clear blue sky show themselves to the radar, the flak, and the fighters. They could see *Tirpitz* surrounded by torpedo nets; but there was no smoke. The smoke installations from Altenfiord had been brought round to Tromsö, but they were mostly not yet in working order.

There were still the fighters. Bardufoss knew the British were coming within one minute of their being sighted, and the captain of the *Tirpitz* was urgently demanding of Arctic Fighter Wing that they be hurried up.

In the vast landscape of snow and ice glistening in the sunshine, even the *Tirpitz* looked small and the Lancasters like specks.

Flak opened up from the battleship and from all over the fiord, bright flashes and gatherings, growing wisps of black smoke. The rear gunners of the Lancasters were watching the rims of the mountains for the fighters, remembering that if the enemy did come, it would be up to them alone, for the mid-upper turrets were back at home.

The Lancasters were bombing from 14,000 feet; the bombs went away and there was a time of waiting before they started to hit. Then there was a yellow flash on the battleship's forecastle. A bomb hit the shore, two more hit the ship, one by the bridge and one abaft the funnel, then smoke covered her, but they could see other bombs burst inside her nets and through the smoke she could be seen burning. There was an-

other flash and a column of smoke five hundred feet high. A magazine had gone.

Three minutes later 9 Squadron followed 617 and bombed what was left, but it was a case of killing a ship already dead. As the smoke lifted and they were speeding home, the last plane, carrying the movie-cameras, saw the ship turning slowly over. There was never any sign of the fighters, which had taken off but had not been able to intercept.

Back in Scotland absolute confirmation came in within a few hours; a reconnaissance plane saw the *Tirpitz* upside down in the fiord, and Mr. Lindberg, the Norwegian, was soon on the air reporting that the ship was sunk, and that the Germans were laying out their dead in the morgue downstairs.

About 1,200 men lost their lives in the ship. Seventy-six were got out after she was sunk, through the holes cut in the bottom.

On shore it had started as a quiet beautiful Sunday morning. The fishermen living in the little painted houses round the fiord were awakened by the *Tirpitz* opening fire with her 15-inch guns, barrage fire against planes that were not yet in sight; there was a clacking of wood and iron as they opened their shuttered windows and looked out.

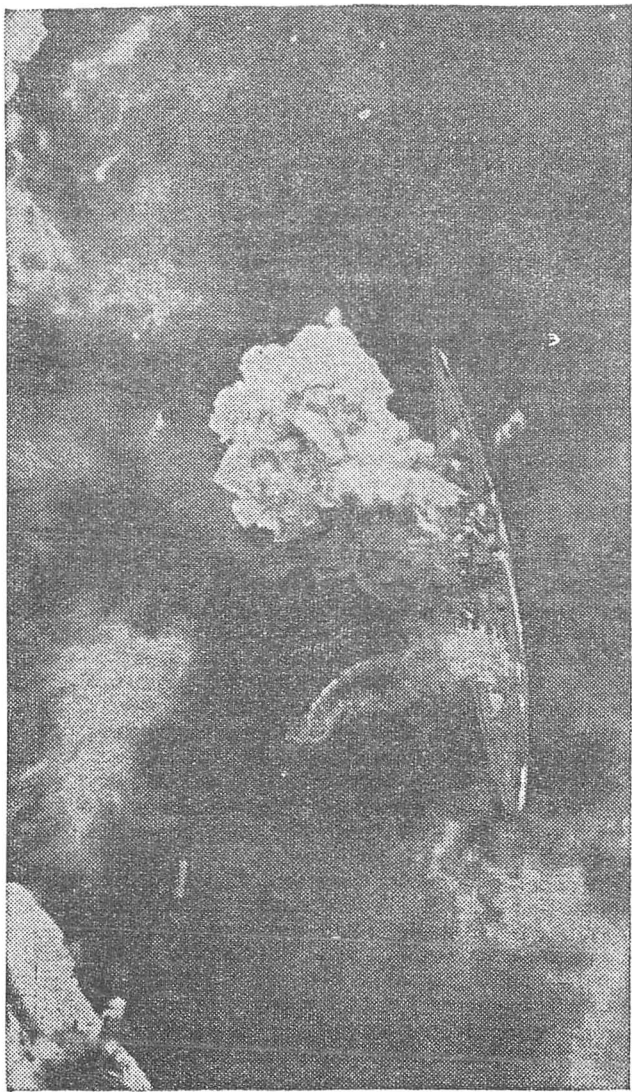
Tirpitz was flying a yellow, blue, and yellow flag, which nobody had ever seen before; it turned out to be an air-raid warning signal. After the first 15-inch salvo, which had been heard for miles around, she fired two more, great long reddish-yellow flashes leaping from her guns, followed by brownish smoke. The shells burst in the air, leaving pear-shaped clouds behind which drifted slowly across the sky.

A few of the smoke pots started up but not many, and *Tirpitz* sat open on the smooth waters of the fiord as upon a mirror. A roaring filled the air as the four-engined machines approached, coming out of the sun.

They were too close now for the 15-inch guns, but the secondary and flak armaments opened up. The planes seemed to sail through the shell bursts and then were over the target.

Two bombs fell near the ship, shooting up piles of water. Then it was possible to see a third huge bomb leave a plane over *Tirpitz* and, curving down slowly it seemed, hit the ship alongside the funnel, just between the catapults.

When the smoke cleared away the starboard side of the ship was higher out of the water and the port secondary turrets were no longer firing.



Direct hit on Tirpitz by heavy bombs.—Imperial War Museum

That was only the first group of Lancasters; the rest came on, dropping bombs that could be seen falling with the naked eye. One hit the aftermost turret, which jumped up through the smoke of the explosion and crashed into the sea alongside.

Later, two hundred yards away on land, the Norwegians found ball bearings so heavy that it was hardly possible for a man to lift them, the remains of the roller path, which had been blown out of the ship by this explosion.

Bombs went on falling, but the area where the ship lay was covered in smoke, lit only now and again by the flash of explosion. When the smoke cleared away *Tirpitz* was already lying over at an angle of forty-five degrees, turning slowly. She went on turning until she was nearly upside down, then her upperworks must have hit the bottom, for she stuck as she was, with her red bottom above the surface. Here and there oil fuel on the water was ablaze, and the surface was dotted with the heads of swimmers striking out away from the flames; not all escaped them. The others reached the shore, or the net buoys, or the hull of the ship itself, once it was clear that she would sink no further.

Some of the survivors never even got their feet wet. As the decks inclined, they stepped onto the side of the ship, by then nearly horizontal, and from the side of the ship, as it continued to roll over, onto her bottom, from which they were afterwards picked up by small boats.

Between the fall of the first bomb and the sinking of the ship eight minutes had elapsed, eight minutes spent in noise and mortal peril, amid the crash of the bombs and the ship's own guns, the shrieks of the wounded, and the shouts of men who saw death upon them as they struggled out of the ship with everything movable falling out of place, sweeping them off their feet and adding to the hellish din.

But down in the bottom of the ship, in one place at least, the end came in complete silence. Underneath the armored deck was the transmission center, its bulkheads lined with rubber and in its center the steel lockers which contained the 20,000 fuses of the electrical circuits of the fire-control system.

Here sat a group of men wearing gas masks with telephones inside them, watching blocks of the fuses. When action stations were ordered the watertight doors were closed and the doors of the huge fuse boxes were opened. Each fuse was of glass which contained a metal wire and a tiny red bubble;

when the wire, which was the fuse proper, broke the tiny speck of red disappeared.

It was not possible for anyone to speak to anyone else except on the phone, so that everything went on without a sound, like an old silent film, until the bombs began to fall; then there was a terrific noise and the ship began to jump about.

A seaman named Gerlach, whose duty it was to look after one of the sets of fuses, suddenly saw his fiancée's picture move slowly along the table beside him, and he realized that the ship was heeling over.

Then fuses began to go all over the ship; Gerlach replaced those in the block he was watching, but as soon as he replaced them they went again. Most of the telephone lines within the rest of the ship were gone too. His fiancée's picture slipped off the table and the glass in the frame broke. Then all communications ceased, even with the compartment next door. Gerlach and one other man found themselves alone, alone in the depths of the sinking ship, where there was nothing to be heard except the chirping sounds of the electric calculating machines.

Gerlach put himself through on the phone to his single companion; they discussed the situation briefly. Their orders were not to leave the transmission center. But clearly the life of the ship had stopped; another quick consultation on the phone and the two men decided to leave. As they went they switched off the calculating machines and made for the ladder leading to the deck. There was a crash behind them as the fuse boxes tore loose from the bulkheads. The diesels driving the generators were still working, so that the lights burned.

The list on the ship was now about sixty degrees. The ladder to the next deck above them, which should have been nearly vertical, was now horizontal.

Up one deck they went and then another, checked every so often by doors that would not open, but each time finding some way through the maze of tiny compartments, all empty and all still. Gerlach got to the bandmen's mess; he was by himself now. He oriented himself by reading on the lockers the names of the men whom he knew. The whole place was literally upside down. The mess tables and benches had fallen from the deckhead. Lockers had broken open, and there was clothing and gear all over the place, as well as musical instruments and rifles from the arms racks.

He heard shouts and four men, panting, came through the door.

A couple of swift enquiries, and the five men set off by a route by which there seemed to be a prospect of reaching the deck.

But the vital hatchway was jammed shut. Hurling himself against it, Gerlach slipped and fell and they realized, all of a sudden, that they were walking on the deckhead, the ceiling of the compartment, and that the deck was above them.

There was a gurgling noise as the water began to leak into the compartment. The ship had sunk upside down and they were in her.

But they realized that in that shallow water, part of the hull must still be above the surface, and their one hope was to get back the way they came, back to the bottom of the ship.

They started off again; water was coming in all over the place, gurgling and streaming.

Suddenly the light went out, and a big wave of water rushed into the compartment they were crossing. Gerlach hung onto something to prevent himself from being swept away. A bulkhead had given way somewhere. One of the men shouted and fell into the water. There were only four of them now.

They tried to get on in the dark through the icy water, but in a few moments were completely lost. The water came slowly up their thighs; it was streaming in, hungrily grasping at them.

They stood waiting for the end.

The water still came in, rushing and bubbling, and soon reached their waists. The air was thick and heavy, and it was difficult to breathe. They could work out pretty well how long they had to live. Somebody's teeth were chattering.

One of the men, a petty officer, had a revolver, and they talked about shooting each other, but they could not make up their minds who was to do it.

Gerlach was the smallest of the four; the water was up to his chest; it felt to him like the stab of a knife.

Somebody spoke:

"I wish I had a smoke."

"I've got some, but they're wet. Nobody's ever invented a watertight cigarette."

Gerlach remembered that he had a packet in his life-

jacket. He felt in the pocket; his fingers were trembling so that at first he could not make out what was the hard object that he could feel. Then he realized that it must be a torch. He did not say anything to the others for fear that the torch had got wet and was useless. He moved his fingers to the switch slowly, not daring to put fate to the test. He pressed the switch and the torch leaped on, showing the deathly pale faces of the others, their eyes red-rimmed.

They could see where they were and they set off to swim to the next watertight door, Gerlach holding the torch above his head. They got hold of the lever locking the door and struggled with it successfully. They went on, through three more doors each of which opened only after a struggle. Then they found a ladder leading above their heads to the deck which should have been below. Gerlach and one other man climbed up it and found themselves out of the water.

Then Gerlach discovered that two members of the party were missing: the man with him was exhausted, so Gerlach went back by himself to find them and bring them to what, for a few minutes at least, was safety. After clambering and swimming, Gerlach went back the way he had come, and found the two missing men. The water was higher now and, passing through the doors in the bulkheads, he found it necessary to dive under the water, but he was able to keep his torch alight.

Gerlach collected his party on the deck above the water and started to climb higher still, toward the bottom. They got to the entrance of the forward refrigerator room. A fine snow was coming out of the joints in the door, but it was not possible to open it. They then heard voices above their heads, climbed again, and found themselves in the forward machine shop, brilliantly lit by a battery lamp. There were twelve men there already who, half-exhausted, half-frightened, saw the arrival of the newcomers without any trace of emotion.

Above them was the double bottom; the space between the inner and outer hulls was used for the storage of oil. Somebody suggested that they open the valve of the tank to see whether it was full; a couple of drops came out and they knew the tank was empty. There was a manhole leading into the tank, but the bolts which secured it were stuck and the big spanner used for opening it was in the adjoining compartment. They half-opened the door and then found it jammed by a lathe which had fallen from its mounting.

There was a noise above their heads; somebody was walking on the bottom of the ship. They began to bang on the hull, hoping to be heard on the outside. Banging started elsewhere and tormenting moments passed as they tried to listen and hear whether their signal was being answered.

Eventually they knew that they were being answered and one of them began to signal in Morse.

"Sixteen men under oil tank forward workshop."

And there came the answer:

"We are cutting the hull. We will get you out."

There was a terrific crash overhead and the trapped men thought that the British were back; later they found out that it was part of the outer hull, cut by blowtorches, which had fallen into the empty oil tank immediately above their heads. This crash was followed by the sound of footsteps, as the rescue party entered the tank and prepared to cut into that. Now there was just one steel plate between them and safety.

They saw the red of the blowtorch coming through the ceiling of their prison—then the red become white, with a yellow tinge, and a stream of molten metal began to fall. Suddenly the torch went out, as a whistling of air began. The air in the workshop, compressed, began to escape through the hole in the oil tank with such force that it extinguished the torch. Then another point of flame appeared and a third. The change of air pressure was violent; they felt as though their eardrums were bursting, and one man collapsed. Then the cutting stopped; it restarted again after a quarter of an hour, and stopped once more. As they waited, desperate, a manhole opened and a stoker emerged covered in oil, which had fixed drops of sweat on his face like pearls. He had come from aft, where fire had broken out, and made his way to where he now found himself, through a tube containing a thick bunch of electric cables. With him on his flight through the completely dark, narrow tunnel, had been dozens of rats, so frightened that they had not turned to attack him.

Afterwards the men discovered that the torch had gone out again because the gases from within the hull had made the man holding the torch unconscious and then done the same thing again to the man who had taken his place, so that work had to be interrupted while gas masks were fetched. The pressure was falling in the workshop and, as it fell, the water rose beneath the feet of the seventeen men.

Then the torch started again and a piece of plating fell down among them. Above their heads they saw the blue sky, and some faces looking down and hands reaching to help them.

These men and others who were got out of the hull owed their lives to Sommer, the Senior Engineer of the ship, who was on shore when the attack took place and, as soon as he saw what had happened, busied himself with the collection of all the blowtorches he could find in Tromsø, either in the hands of the Wehrmacht or in the hands of Norwegian private citizens. His meticulous knowledge of the ship told him where would be the most valuable places at which to cut the hull, and within a short time work was going on, despite constant interruptions and handicaps. The attack had been made at 8:45 A.M. By five o'clock in the afternoon the first group was freed, that of which Gerlach had been a member. The work went on all night, and the last men to be got out alive were saved at eight o'clock the next morning, just twenty-four hours after the ship had sunk.

Not all the attempts to free the trapped men were successful. One group of twenty men was heard signaling and a start with cutting was made. The men inside signaled that water was coming into the compartment and that it was quickly mounting. It reached their waists, then their chests, and then they had to swim. Still the cutting could not be finished and those working outside the hull heard the farewells of the doomed men and the first bars of "Deutschland Über Alles." Then there was silence.

The survivors were hustled ashore, shut up on a little island, and not permitted contact with the outer world for some time. Gerlach was sent on leave, but almost immediately was ordered off to the front, to fight with the army.

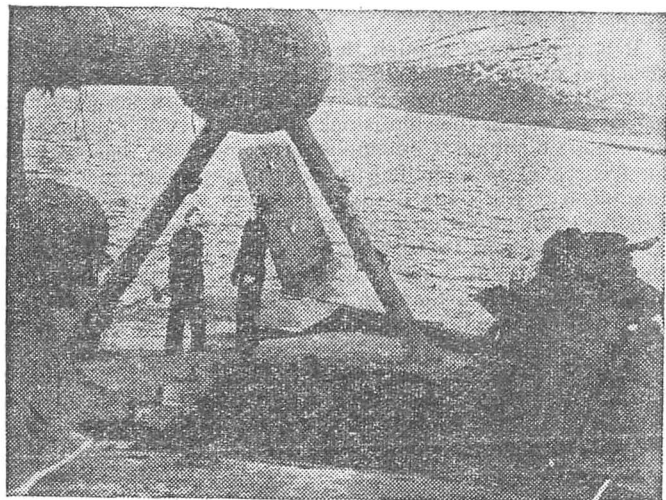
The official German *communiqué* on the sinking announced that *Tirpitz* was no longer serviceable. She was not, of course, but then she had not been since the X-craft attack fourteen months previously.

This time there could be no question of her ever being repaired; it was now possible for the ships which had been watching her to go off to the Far East or take part in the final stages of the Battle of the Atlantic, while the planes could be switched to the Battle of the Atlantic or the end of the bomber offensive against Germany.

There were two unexplained mysteries in connection with



The end—Struck by 10,000-pound bombs dropped by the famous “dam-busters” squadron, *Tirpitz* rolled over slowly until her superstructure struck bottom. Twelve hundred men went with her; seventy-six were rescued through holes cut in her bottom.—*Wide World*



the end of the ship: the failure of the smoke pots and the failure of the German fighters to find the Lancasters.

When I discussed the sinking with Wing-Commander Tait, I asked him his opinion. He replied that he believed the smoke gear was in process of being brought from Altenfiord to Tromsø and had not been completely reassembled at the latter place, but as to the question of the fighters he could give no opinion.

When Norway was liberated a Royal Navy diving survey party was sent to Tromsø, to investigate the secrets of the sunken ship; it was a macabre business, under water in the darkness, with only two or three feet of visibility, among the hundreds of dead. And a dangerous one, too, for there was plenty of trapped oil about, as well as live ammunition, the risk of which made the use of the blowtorch impossible below the waterline. In the course of the investigations, Tait was one of those who dived on the ship.

Later on, four members of the Norwegian resistance movement began salvage work on the hull. It was a modest enterprise at first, contenting itself with entering the hull and removing valuable pieces of metal sufficiently small to be easily handled, as well as the Diesel auxiliaries, dynamos, copper tubing, etc., which had been protected from rust by fuel oil in the sea water itself.

It is appropriate enough that the task of the physical destruction of the ship should fall to the Norwegians, for the part which their resistance movement played in the unending campaign against the ship is one to which it is difficult to give an adequate tribute. Contemplating it, one feels that, as with an iceberg, it is something of which seven-eighths is below the surface. The parts of the one-eighth are people such as Lindberg, the radio operator at Tromsø, who died in 1952; Larsen, skipper of the *Arthur*, and the whole team which ran the "Shetland Bus"; and Torstein Raaby, another radio operator, who used a German officer's aerial for his transmissions and became famous only later, as a member of the crew of the *Kon-Tiki*.

None of the resistance movements have had or could have the historian they deserve, but it is a great pity that there is nothing at all dealing with the struggle in Norway comparable with the documentation which exists on events in other countries.

So, bit by bit, *Tirpitz* is being cut up where she lies, up-

side down and sticking out of the water like a smooth, rounded rock. Her sinking was the virtual end of the German surface fleet, outside the Baltic, where the two pocket battleships were both sunk by the R.A.F. during the last month of the war.

THE END OF A FLEET

The *Hipper* and *Leipzig* were in collision off Kiel in November 1944, and neither was ever made seaworthy again. *Leipzig* was always an unlucky ship, and she had never been completely repaired after having been torpedoed by a British submarine in the first weeks of the war. This time she was very nearly cut in half. She was eventually scuttled by the Allies off Wilhelmshaven in 1946. *Hipper* spent the rest of the war alongside a dockyard wall in Kiel, painted a horrible black and brick-red camouflage so that her outlines would merge with the nearby workshops. She was scuttled in Kiel Fiord, along with scores of U-boats and the light cruiser *Emden* badly damaged by bombing. When ordered by the British to scuttle the submarines, the Germans suggested that they simply be put on the bottom by flooding their diving tanks. In that way, the Germans went on, it would be easy to bring them to the surface when we needed them for the next war. It was with some difficulty that the Germans were convinced that it was not simply a question of hiding them away, while pretending to carry out the terms of the Inter-Allied agreements.

When Germany surrendered, the only two ships bigger than destroyers still in commission were the *Prinz Eugen* and the *Nürnberg*. Both had been hard at work in the Baltic covering the seaward flank of the German army in its long retreat from outside Leningrad to Stettin, during which, so the *Prinz Eugen's* Gunnery Officer claimed, she had fired more rounds from her heavy armament than any other warship of modern times.

At the end, *Prinz Eugen* and *Nürnberg*, with a number of destroyers and antisubmarine craft, took refuge in Copen-

hagen, and it was there that that British finally caught up with all that was left of the German navy.

The end of this fleet was no glamorous spectacle like the High Sea Fleet coming out for internment in the Firth of Forth in 1918. There was no ceremonial. A defense company of 13 Parachute Battalion of the Sixth Airborne Division flew into Kastrup airport at Copenhagen the day after the surrender on Lüneberg Heath, and found Danish resistance forces in charge of the situation. The German fleet lay in the dockyard area by the Citadel, and German troops were still walking about the streets.

Nobody quite knew what the fleet, such as it was, would do; some of the junior captains announced their intention of sailing from Copenhagen to continue the struggle in Norwegian waters, and a message giving this news was smuggled ashore by members of a crew which had no desire to fight on.

In fact nothing happened, and next day Germany's second dream of commanding the seas ended. A battered Volkswagen with a big white flag drove around the Kongens Nytorv, the main public square of Copenhagen, and pulled up outside the Hotel d'Angleterre, where the British authorities had taken up their quarters.

In the car were two deathly pale German naval officers in worn leather overcoats and battered caps, the badges of which were frayed and tarnished, a naval driver, and a sour-looking woman wearing the blouse of the German Wrens with civilian skirt and stockings.

The woman got out of the car and came up to the only person in sight wearing a British uniform, a war correspondent (the present writer) who stood at the hotel entrance talking to the head porter.

She told him that she had come with the two officers to arrange for the handing over of the German warships in the port.

Flabbergasted, I said nothing, but the head porter, by no means abashed, spoke up at once, and said:

"The British Admiral will receive you in room 104," and shepherded the woman and the two officers through the dark lounge of the hotel, past the statue of King Arthur and up the stairs.

I watched them go; scarcely able to speak and scarcely able to prevent my emotions from becoming apparent, I

walked off to savor by myself the moment through which I had just passed.

Six years of war were ending upstairs in the drawing room of a hotel suite. For this moment millions of men and women had fought and worked and scores of thousands had died. Here was the end of six years of continuous warfare—all either deadly dull or deadly dangerous; in order that this tiny scene in the spring sunshine of the lovely city of Copenhagen should take place, was why ships and their crews had burned or drowned, why submarines had been riven, why shipyards from the Pacific coast to the blitzed Tyne had worked a continuous overtime, and why scientists in still laboratories had done incomprehensible things which had made the business of protecting life and taking it more efficient.

It was not only the end of the naval war, it was the end of the war in Europe. The ships had brought to the Continent and sustained them there the planes, the tanks, the guns, and the men which were on the Baltic, on the Elbe, and in Bohemia, and they had had much to do with the presence of another Allied army in Berlin.

But in this moment of complete victory grand solemn thoughts could do no more than form temporarily and cloudily in my mind. Down in the harbor, where the Germans lay, their flags still flying, sentries still mounted at the gangways, wisps of smoke coming from their funnels, and sounds and sights of routine shipkeeping much in evidence—cleaning and polishing, blowing of boatswains' pipes, the beetling about of small boats through the sunny blue waters of the harbor—in short, life was going on very much as usual. It seemed to me as if it might have been a peacetime visit of German warships—until suddenly the thought came to me that this was all that was left of an entire navy. Surviving submarines had obeyed orders and surrendered by the score or else scuttled themselves; the surface ships not here lay scattered on the sea bed from the *Tirpitz* and the *Scharnhorst* in the Arctic to the *Graf Spee* off Montevideo.

The two survivors, the *Prinz Eugen* and the *Nürnberg*, continued for another year to keep German crews and to form the kernel of a force of over two hundred ex-German warships which were concentrated at Wilhelmshaven, while the Allies discussed what was to happen to them. During most of that year, and especially through the winter of 1945-46, a visitor to Wilhelmshaven got the impression very strongly

that although in the wilderness of postwar Germany the Reich and indeed the nation had ceased to exist, the navy continued to live. In fact, of course, it was Germany that lived and the navy which had died for the second time.

A year later the *Prinz Eugen* was expended during the atom bomb tests at Bikini, *Nürnberg* was given to the Russians and the destroyers and torpedo boats were partitioned between the British, French, Russians, and Americans. Those which went to Britain and America were scrapped, and only some of those which were assigned to Russia and to France still exist.

The fact that the German surface fleet by 1945 was virtually destroyed, whereas in 1918 it came out, largely intact, to be interned by its victorious enemies, is a measure of one of the big differences between the 1914-18 war at sea and that of 1939-45. The same phenomenon was seen in the Far East. Of the big ships of the Japanese fleet only one battleship and one light cruiser survived the end of the war in a condition which made it possible even to take them off to Bikini for the experiments there.

In both cases the final touches to the destruction of the enemy fleet were put by aircraft. In Europe, with its comparatively short distances, it was done by the shore-based R.A.F. and the United States Army Air Force, while in the Far East it had been the work of the carrier-borne planes of the American navy.

Most of the German and Japanese ships of war sunk from the air were sunk in their own harbors. However, command of the air over well-defended bases was only obtained by the Allies at the very end of the war; it was quite decisive, but it depended upon command of the sea. This was obvious in the Pacific, where the American attacks were launched from vast fleets of carriers steaming a short distance off the coast of Japan, but it was equally true in Europe, where British and American air forces alike were dependent on fuel, replacements, and raw materials brought by ship to the United Kingdom.

Command of the sea and air not only secured supplies for the United Nations, but denied them to the enemy, as witness *Tirpitz's* chronic shortage of oil fuel from the time that she was completed. In the early months of the war, the Allies were far too optimistic as to the rate at which shortage of oil would cripple the enemy; this, however, does not alter the fact

that in the very long run that crippling did take place; partly by a simple sea blockade and partly by air attacks on plant and communications.

Oil shortage first grew to a significant size just when the *Tirpitz* was completed, so that it is true to say that the ship was finished too late; had she been able to keep the seas during the critical months of 1942, before the turn of the tide, at least the war would have been prolonged.

Apart from shortage of oil fuel she suffered from one other great handicap, lack of a carrier to go to sea with her to look for victims and to warn her of the approach of enemies too powerful to be fought; the degree of her harmfulness would thus have been increased many fold.

An aircraft carrier as a commerce raider, with or without other vessels in company, is something that has not yet been seen, and it is just as well that it was not seen in the last war, at least before the Allies had a vast carrier force. Apart from the question of reconnaissance, both offensive and defensive, it would have been possible for the carrier's planes to attack and damage, if not sink, ships in convoy and their escorts without running the risk of getting the raiding ship itself committed.

Several of the German commerce raiders did carry sea-planes for reconnaissance, but their offensive capacity was limited to machine-gunning and flying low to snatch at the wireless aerials of ships with grapnels to prevent their sending an S.O.S.

It has been seen that during the biggest of all the German commerce raiding expeditions on the surface, the two months' cruise of *Scharnhorst* and *Gneisenau*, these powerful ships never dared close a convoy, and contented themselves with sinkings that could have been carried out just as well by much smaller and cheaper vessels. Had they had a carrier with them they could have selected their convoys, decided whether to come in and attack with guns, or whether to stand off and attack with torpedo planes or bombers.

But after consideration of what the Germans might have been able to do had they had even a single balanced task force of surface ships and the wherewithal to make it work, the question must come up as to whether the series of operations in which the German heavy surface ships were concerned has any relevance to present-day conditions. Is there anything that we can learn from these operations which is of value to us, as

we contemplate the possibility of a war at sea in the course of the next few years?

The answer would seem to be yes.

It is true that the *Tirpitz* of a war in the immediate future would probably not be armed with guns; but a big ship, armored and escorted by anti-aircraft and anti-submarine vessels, will be a serious menace to the command of the sea, whether as an aircraft carrier or, looking a stage further ahead, as a ship armed with guided missiles for attack on coastal and inland bases, or on ships at sea. In the future, as far as we can see it, there will always be ships at sea, whose safe arrival at their destination will be essential to any power or group of powers whose forces and supplies are linked only by the ocean.

Neither Britain nor any other western power could be kept going on an airlift of the sort that will be possible for many years to come. Our main supply route must be the sea, and so must that of western Europe. Similarly, the raw materials vital to the United States must be brought to that country in ships.

Fleet Admiral Nimitz, when he relinquished office as Chief of Naval Operations of the U.S. Navy in December 1947, wrote:

"Sir Walter Raleigh declared in the early seventeenth century that 'Whosoever commands the sea, commands the trade; whosoever commands the trade of the world commands the riches of the world, and consequently, the world itself.' This principle is as true today as when uttered, and its effect will continue as long as ships traverse the seas. That this period extends beyond the foreseeable future is apparent when it is realized that the 100,000 long tons of cargo which forty-four ships can transport from San Francisco to Australia monthly would require for the same purpose 10,000 four-engined C-87 airplanes manned by 120,000 highly trained personnel plus 189 seagoing tankers to provide gas along the route and at the far end of the run. Cargo-carrying aircraft will no more replace vehicles of the same type on the sea than they will those on the land."

As long as one belligerent depends for a vital part of his war effort on seaborne transport, the other belligerent will have a powerful incentive to destroy that transport.

Long-range planes and attacks with bombs of all sorts on harbors and the ships in them will be one way to attempt

this, and the possibility of winning a naval war with submarines may be as attractive to a future enemy as it was to Tirpitz in 1916 and to Dönitz in 1939.

Certainly a new world war would begin with the opening of another battle of the Atlantic which would go on until the war had been won. Whether there would be ships in this new battle to play the part of a modern *Tirpitz* or *Scharnhorst*, it is not possible to tell at present. Nevertheless, the danger of such ships being used and the need to counter it must be borne in mind.

As far as attacks on convoys are concerned, one large surface ship could carry many more rockets than a "wolf pack" of submarines, and make a faster approach and a faster getaway. Such an attacker would need for her greatest efficiency her own escort of carrier-borne planes and long-range anti-submarine craft. That is only the concept of a balanced fleet in new guise, and, incidentally, a return to Raeder's ideas embodied in Plan Z in 1939, which, it will be recalled, was based on task forces of battleships and carriers to back up surface raiders and submarines in their onslaught against Britain's trade routes, the same Atlantic sea lanes which hold together and make possible the replenishment of the NATO powers.

It may be said that we suffer in our understanding of history by the fact that we look at it "backwards." What looms largest in our minds is the close of an episode. In particular, if it was sensational, it appears disproportionately greater than anything else that happened in the same series of events. Thus when we look back on the *Tirpitz* what we see is a ship turning over slowly, surrounded by the splashes of bursting bombs, the whole picture smudged with the smoke of bombs and shells, and it all appears somehow to have been easy.

It was a decisive end to the story, which had taken much preparation to achieve, and it was an end that might not have been so happy for us if the German fighters at Bardufoss had taken their opportunity.

Hardly had *Tirpitz* been launched when we were at work planning to sink her with tallboys, with two-man torpedoes, with X-craft, and with conventional weapons of war. But it took five years to do the job, and when those five years had elapsed the sinking of the ship was just one of a series of victories, news of which came crowding in from around the world, and it appeared almost a sideshow compared with the

preparations which were then being made for the final battles which were to knock out both Germany and Japan.

Under those circumstances there is a risk that the *Tirpitz*, the battleship which very nearly never went to sea, will appear of less than her true importance, finally overborne by the superiority in quality and quantity of weapons which we had achieved by the close of the war.

But it is necessary to look at the story the other way round, starting from the beginning, a beginning at which we had neither the quality nor the quantity of weapons required to deal with the huge ship, a time when we were very thin on the ground, or rather, on the sea, and that is the point of view from which the episode should be studied; that was the time when the danger was most acute and the tension greatest, and the story most exciting. It is also the time which holds the lessons which we may need for the future, for we enter all great wars very thin on the ground, on the sea, and in the air, and the next great war, if there is one, is unlikely to be an exception.

Accordingly, it is to the earlier half of the Second World War that we must look for experiences most immediately valuable, to the period 1939-42, when a single enemy capital ship could have an influence on the course of the war out of all proportion to the cost of building her, or the number of men employed in sailing her when she was afloat, or looking after her when she was in port.

The view that the loss of a single Murmansk convoy could have put back the end of the war by a month has already been cited. That was true of the situation in December 1943, when the pendulum had swung finally over to our side, and when with quickening tempo, things were going better and better for us. It was even truer of the earlier years of the war, before Stalingrad, before Alamein, before Guadalcanal. Then an almost unbearable burden could lie upon one convoy. The successful passage of the August 1942 convoy to Malta, for example, certainly shortened the war by months, for by preserving Malta, it saved Egypt, and the North African landings would have been something very different if the Germans and the Vichy French had been able to resist them without having Montgomery and the Eighth Army at their backs.

Even during the last half of the war it was impossible to relax the pressure, for there was in the minds of the Allied leaders the knowledge that the Germans might be able to take

advantage of a delay of a month or several months to put into action more and more of their secret weapons.

The delays actually imposed by *Tirpitz* on the movements of convoys and therefore on the course of the war were serious enough, but bigger and better V-weapons might have been only one consequence of an end to the war further delayed.

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