

SECRET

***The Battle
of the
Atlantic***

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PERIOD 1

From the Outbreak of War to the Norwegian Campaign

(September 1939 to April 1940)

POLITICAL AND GENERAL

The campaign starts briskly with the outbreak of war, but dies away about 27 September. In the first week of October, Hitler's first peace offer is made and rejected, but the offensive is not resumed with the same force. Some provocative attacks are made on neutral shipping.

THE U-BOAT OFFENCE

The Germans began unrestricted U-boat warfare within forty-eight hours of the declaration of war when they sank the British liner *Athenia* in the North-Western Approaches during the night of 4/5 September. By doing so they broke the Anglo-German treaty of 1935. In August 1939 they had between fifty and sixty submarines, and some of these left Germany in the last ten days of the month and were in position around the British Isles by 3 September. There they took advantage of the inevitable delay in establishing the convoy system. Their tactics were to attack at periscope depth by daylight. The risk of detection by aircraft and, later, the fitting of merchantmen with defensive armaments generally deterred the U-boat captains from surfacing and shelling their victims. There seem to have been no cases of their boarding merchantmen and sinking them with explosive charges, as was so often done in the war of 1914-1918.

The intensity of the September campaign was never repeated during this first period. When the U-boats resumed operations in October, a small force was sent to the Western Approaches, but the greater effort was directed towards mining the paths of coastal convoys. In the first three months of 1940 the U-boats were mainly in the North Sea, and by 12 March all had been withdrawn from the Atlantic in preparation for the Norwegian campaign. In this campaign they were extraordinarily ineffective.

GERMAN TACTICS AND ALLIED COUNTER-MEASURES

The majority of attacks were made by day, the periscope being shown from time to time during the approach. After the attack the U-boat dived deep and escaped with the use of an occasional burst of high speed. The use of convoys, ASDIC, and depth-charges were the Navy's principal measures of defence. Using convoys had long been decided on and the original scheme was fully in force by the second month of the war.

Compared with the convoy system which now covers every trade route in the world, the original scheme was a small affair, but the fact that of the 164 ships sunk in this period only seven were sunk in convoy shows that it was by no means ineffective. The escort left the outward-bound convoys at 12:30 W and picked up incoming ships at an arranged rendezvous. The escorts were small but always included Asdic-fitted vessels, although at first there were only one or two of these. Even under these conditions the ASDIC, manned by extremely highly-trained operators, soon forced the U-boat captains to abandon the daylight attack at periscope depth. In the quiet winter of 1939-40 the captains, whose training and skill well merited the title of "aces" which they later won, were working out the tactics of attack by night on the surface, which made the opening stages of the Battle of the Atlantic so costly to the Allies. It was significant that in September 1939 97 per cent of the sinkings of merchantmen by U-boats were by daylight. This had fallen to 67 per cent in October, and by the third month of the war more than half the sinkings were during the hours of darkness.

As soon as the naval control staffs had been built up in ports abroad and merchant shipping had been more organised, it was possible to begin to make some use of evasive routeing, and this was gradually developed into one of the most successful of our counter-measures throughout the war.

From the start of the war the U-boat captain had a dislike of attack by aircraft. It was this dislike and the knowledge that almost every ship was fitted with radio which made him chary of surfacing to attack merchantmen with gunfire or of reverting to the 1914-18 method of placing bombs on board. The weakness of Coastal Command at the time actually made it impossible to do more than maintain patrols over likely areas. If an aircraft attacked a U-boat, its Anti-Submarine bomb was small and inefficient.

It had been thought that Anti-Submarine striking forces would play a large part in the campaign. It has been mathematically calculated that four destroyers aware of the position of a submarine only twenty miles distant have a 40 per cent chance of gaining ASDIC contact. The first U-boat to be destroyed in the war - the U39 - was, however, sunk not by a striking force, but by two destroyers of HMS *Ark Royal's* screen, while the carrier was making a sweep to the westward of the Hebrides. Three days later HMS *Courageous*, which was conducting a similar operation in the South-Western Approaches, was sunk, and the carriers were withdrawn and not again used for such anti-submarine work.

During September and October striking forces of destroyers had some success. No fewer than eleven were engaged in the hunt which led to the destruction of U27 on 20 September. In the second week of October, HMS *Inglefield* and the other destroyers of her flotilla made an extremely successful strike to the westward of Lands End, sinking the U42 and probably others. After that, however, striking forces achieved nothing, and trawlers and whalers patrolling in the northern part of the North Sea endured much bad weather without reward.

PERIOD II

From the Norwegian Campaign to the Sinking of the Aces

(April 1940 to 17 March 1941)

POLITICAL AND GENERAL

The conquest of Norway is followed by the occupation of the Low Countries and the fall of France. By these means, the enemy half "encircles" the United Kingdom and the stage is set for the opening of the Battle of the Atlantic. Italy enters the war in June as France drops out, but this at first makes little difference. After June 1940, the British Empire has the war to itself until the entry of Russia in June 1941.

THE U-BOAT OFFENSIVE

In April 1940 U-boats engaged without success in the Norwegian operation. There was very little activity during the first half of May, only one ship being sunk in convoy. After 20 May, the offensive was resumed against convoys in the South-Western Approaches, roughly on either side of a line drawn between Cape Clear and Cape Ortegal, and attacks were made with greater boldness than before. German submarines also operated as far south as the Lisbon-Cape St Vincent area. This continued throughout June and into July. In this period Kretschmer and Prien made their most successful cruises. The sinking by the latter of the *Arandora Star* on 2 July with his last torpedo had the effect of stopping the evacuation of school-children to Canada and the U.S.A.

July marked the beginning of serious attacks on convoys even while A/S vessels were actually present. These ships were still scarce, however, and a large convoy might have only two of them in company. The rendezvous of escort with convoy was pushed further west, but U-boats attacked convoy SC 1, which had sailed on 15 August, as far out as 27:00 W. In September they displayed even greater boldness, making attacks on the surface with gunfire. Of the fifty-nine ships lost in this month, forty were in convoy. Nearly three-quarters of the attacks were made at night. The enemy's boldest and most skilled commanders were at sea.

In the third week of September convoy HX 72 lost eleven ships to two U-boats, and on 18/19 October thirty-one ships were torpedoed when two eastbound convoys were cut to pieces during the period of the "Hunter's Moon". Rather more U-boats took part in these attacks than in the attack on HX 72, but at no time during the autumn did the number operating in the North-Western Approaches exceed six. As a result of the sinking of U32 and U31 (on 30 October and 2 November respectively) and of Kretschmer's boat being so much damaged by HMS *Beagle* on 5 November that he had to return to Lorient – by now in full use as a base and subject to RAF attack – things became much quieter and our losses fell from 350,000 tons in October to under 150,000 in November. No ships were sunk until 13 November. Four of them were lost in the Freetown area – a foretaste of things to come - and convoy SC 11 had six ships torpedoed, probably by Schepke, at about 13:00 W on the 23rd. The enemy, however, lost U104 at about the same time. On 2 December another enemy submarine was regarded as having been 'probably sunk' during an attack on a convoy.

It was not altogether surprising that the loss, in slightly over a month, of four out of the small force of U-boats operating in the North-Western Approaches should have resulted in something of a lull in December. Even so the month started badly with a heavy attack by four U-boats on convoy HX 90, and shipping losses actually rose by some 40,000 tons as compared with November. Early in December the enemy moved his operational area from 15:00 to 20:00 W, but brought them eastward again in the following month.

By January 1941, the Italians had entered the battle and their submarines began to operate to the southward of the Germans'. The lull continued until the end of the month, when a single 740-ton U-boat made contact with convoy SC 19 on a moonless night and torpedoed five ships out of nineteen. The convoy had been escorted by two destroyers -both of which had their radar out of action – and two trawlers, in one of which the ASDIC was out of action. About this time it was estimated that some fifteen U-boats were operating, and although they achieved little against convoys, they sank three large independently routed ships on 16/17 January.

To counter our evasive routeing, the enemy in February established two lines of from three to five U-boats, one at about 10-12:00 W and the other beyond 20:00 W. They also intensified the Focke-Wulf patrols. The duty of these was to find and shadow convoys until the U-boats

could be homed on to them, but the aircraft themselves also attacked and at first caused much damage. In spite of these new measures and the beginning of the "spring offensive" it was not until the last week of February that the U-boats made serious attacks on convoys. In the first week of the month, however, a submarine shadowed an HG convoy and, not content with sinking one ship, tried to home not only Focke-Wulf aircraft on to it, but also a surface raider. Seven ships were sunk by aircraft. In spite of all this, however, the losses for January and February 1941 were both lower than any month since the Battle of the Atlantic had begun.

In March the spring offensive began in earnest. At least twelve U-boats were sent to sea, some of them commanded by Germany's most experienced captains. The enemy was by now operating in small groups and beginning to develop the "pack" system. His groups operated in two specific areas, one in the path of the transatlantic convoys and the other to intercept SL convoys at about 20:00 N/20:00 W. Six U-boats, however, were sunk in the course of the month and no fewer than three "ace" captains were killed or captured during the space of ten days; Prien's U-boat was sunk without a trace on 8 March, Kretschmer was taken prisoner, and Schepke was killed during an attack on convoy HX 112 ten days later.

GERMAN TACTICS AND ALLIED COUNTER-MEASURES

In the autumn of 1940 it became possible to state with some accuracy the tactics which the U-boat "aces" had worked out for night operations. By day it was still a matter of high submerged speed at periscope depth. The U-boat, having generally spent the hours of daylight shadowing a convoy at visibility distance from the bow or beam, would close trimmed-down on the surface and try to get into a position broad on to the bow. She would pass astern of the escort vessel stationed on the bow of the convoy, so as to take up a firing position on the beam. Increasing to full speed, she would fire a salvo of four torpedoes and, having turned away still at full speed, would fire the stern-tubes and then proceed to a safe distance to reload on the surface.

The attack on convoy HX 79 at the beginning of December 1940 showed how individual captains would vary these tactics. The starboard U-boat, which was thought to have been commanded by Prien (these tactics were, however, repeated when SC 26 was attacked some

weeks after he had been reported lost) took individual ships as targets. She either pressed in to very close range and picked them out one by one as they passed her, or, steaming on a parallel course, fired right-angled shots. The port U-boat, less enterprising but even more successful as she was able to torpedo seven ships, twice fired salvos into the main body of the convoy.

The ASDIC had done a good deal to cheat the U-boat of its invisibility when operating submerged as a true "submarine". The vessel had then become a "submersible," proceeding mainly on the surface and diving only to escape from attack. It was therefore necessary to find some device which would deprive the "submersible" of its cloak of darkness. One was the illuminant, fired by all ships of the convoy, *after* an attack had been made. In order to detect the U-boat *before* the attack was made, radar was introduced in the autumn of 1940. At first teething troubles were serious; but no effort was spared to overcome them. The fact that one of the "aces" destroyed on that fateful 17 March 1941 was first detected by radar showed that the ships had an effective device against the otherwise almost-invisible U-boat.

To me the best use of this device was to station radar-fitted ships by day on the bow and quarter of the convoy, approximately at visibility distance (to contact possible shadowers) and by night at about four miles on the beam of the convoy. If there were more than two radar-fitted ships they were to carry out a broad zig-zag ahead and astern of the convoy. When an attack was made, all escorts on the engaged side would turn 90 degrees outwards together and proceed at full speed for ten miles, firing star-shells away from the convoy. If a contact was obtained, two ships were to hunt, the remainder joining the convoy. Later, provision was made for search astern and, in order to "put down" the shadowing U-boat, aircraft were sent to patrol around, but at some distance from, the convoy. All this called for good teamwork. Escort groups were formed and trained to work together under a Commander (D), but at first progress was slow. The insufficiency of escorts, which would have been very much worse but for the arrival of fifty ex-American destroyers in the autumn of 1940, made it difficult to keep the groups together, and it also took time to build up a training organisation ashore.

In this difficult period of the first autumn and winter of the Battle of the Atlantic, evasive routeing was our main counter-measure. It was generally effective, but when it failed the results were apt to be disastrous. The technique of submarine-tracking was, however,

developed and the routing of the convoys was made the responsibility of the Admiralty. The limit of escort was pushed out to 17:00 W.

The provision of air cover was largely a question of bases. These had to be constructed along the western coasts of the British Isles – a lengthy business. As the battle moved westward, longer-ranged aircraft had to be found and, most important of all, the aircraft available for Coastal Command had to be provided with a weapon that was lethal. In the summer of 1940 the naval depth-charge was adapted for use by aircraft, and on 16 August 1940 an aircraft of 210 Squadron made the first effective attack with it.

PERIOD III

From the Sinking of the Aces to the US Entry into the War

(17 March to 7 December 1941)

THE U-BOAT OFFENSIVE

One of the results of the successes achieved by our counter-measures in March 1941 was that the U-boats abandoned the method of close attack on the surface while escorts were in company and at the same time moved still further to the westward. As usual, the change in tactics achieved success, and convoy SC 26 lost ten out of twenty-two ships at the beginning of April. This convoy was found and shadowed well out in the Atlantic by a U-boat which called up four or five consorts. One of them (the U76, which was sunk) had to travel about 300 miles to join. It was not until 28 April that there was another convoy battle. The incident was noteworthy in two respects. The enemy reverted to his earlier method of daylight attack and the escort (two destroyers, three corvettes and four trawlers) thought itself strong enough to detach the two destroyers as a striking force. Four U-boats were thought to have taken part and, although the striking force achieved little, the defence was sufficiently strong to keep the losses down to four ships out of the forty-seven in the convoy.

In April the enemy's main force, estimated to be about twelve U-boats, was in the North-Western Approaches, but one was sent to the Freetown area and another crossed the Equator. In May the enemy increased his efforts in the southern part of the North Atlantic. As a result of this a group of about six U-boats operating off Freetown and in the approaches to Cape Verde was able to sink thirty-two ships in the month. In the North Atlantic the convoy battles continued to move ever further westward. Convoy OB 318 was attacked between 32:00 W and 35:00 W and convoy HX 126 was located to the west of 41:00 W. This meant that the U-boats were operating within about 500 miles of the Canadian coast and the establishment of end-to-end convoys was the logical and necessary step.

The decision was taken at a critical time. The U-boats which had been laid down in the winter of 1939-40 were now coming into service, and in June the enemy could maintain thirty-five at sea, twenty-five of them in the north and west Atlantic. In this month U-boats were sunk

as far apart as a position 150 miles west of Skerryvore, 300 miles south-west of Iceland, and 100 miles west of Cape Trafalgar. The enemy's concentration of submarines to the southward and eastward of Newfoundland took toll of ships proceeding independently after dispersal, but it was not until the last week of June that they found a convoy. This was HX 133, which lost five ships in the course of a battle lasting, with intermissions, from soon after midnight on the 24th until the forenoon of the 29th. Of the eight U-boats which took part, two were sunk; one of these was first damaged while delivering an attack from inside the convoy, this being one of the rare occasions on which these tactics had been used. About the same time, in the latitude of the Canary Islands, convoy SL 78 was also being attacked. By this time the enemy had withdrawn the submarines which had been operating in the Freetown area in the first week of the month.

The enemy's efforts continued to increase from May to August, and the number of U-boats at sea, which had been about fifteen in the first week of May, rose until it was about thirty-five in June. This figure was maintained into August, but apparently the time spent at sea on each patrol was lengthened. About this period German submarine crews were passing through a difficult period of "dilution" which was reflected in the ages of prisoners taken. A comparison of the ages of officers captured in 1941 with those captured in 1939-40 showed that in 1941 38 per cent were under twenty-one (as compared with none) and 46 per cent between the ages of twenty-two and twenty-eight (as compared with 69 per cent), while the number of those over twenty-nine had declined by more than half (16 per cent in 1941 and 31 per cent in 1939-40). With the sinking of the U110 in May 1941, the active career of the last captain to have had command of a submarine at the outbreak of war came to an end.

Great although the enemy's efforts were at this time, they had poor results in both July and August. At the beginning of this period the main operational area was south-east of Cape Farewell. The U-boats were then withdrawn to the east of 25:00 W, apparently with a view to the interception of shipping leaving the North Channel.

During August, co-operation between these strong patrols and Focke-Wulf aircraft developed considerably. The U-boats began to depend on the aircraft more than previously for assistance in maintaining contact, with the result that at this time the Gibraltar convoys bore the brunt of the attack. Convoy OG 71 was shadowed from the west of Ireland all the way to Lisbon and lost eight ships and two escorts in the course of attacks spread over four nights.

The operations of the month were thought to indicate two changes in U-boat tactics - the introduction (a) of deliberate attacks on escorts, and (b) of long-range attacks on convoys by means of a "browning" salvo fired from a position on the bow or ahead. In fact the U-boat captains seemed to have lost some of their finesse. At length the enemy's exertion reaped their reward. A dozen submarines, apparently stationed to the south-east of Greenland, fell on a weakly-escorted convoy (SC 42) on 10 September, and in two nights and a day sank fifteen ships before reinforcements could arrive from Iceland.

At this time the enemy was maintaining fairly strong forces of U-boats not only on the western end of our convoy routes, but also on the southern, as a homeward-bound Gibraltar convoy and a homeward-bound Sierra Leone convoy were attacked and lost heavily. Of the fifty-three ships sunk by submarine in September, forty were in convoy. After the low July and August figures the losses jumped up, although they did not pass the high April, May and June figures. It was, however, significant that the proportion sunk in convoy was 18 per cent in May, when fifty-nine ships of 331,000 tons were sunk, 69 per cent in August, when less than 100,000 tons were lost; and 71 per cent in September.

The U-boats may not have shown much finesse in their attacks as compared with those operating a year or so earlier, but they displayed great pertinacity. One of them followed convoy SC 42 nearly to the Hebrides, and convoy HG 73, intercepted when still some distance to the south-west of Ireland, was attacked for three nights running, losing most heavily on the last night.

Although the main effort of the enemy was directed against convoys, his forces were large enough to allow a gradual penetration of the South Atlantic. The sinking did not amount to much – two ships were sunk off the Brazilian coast in September and in October a ship was torpedoed in harbour at St Helena by a U-boat which afterwards moved towards Walvis Bay. Enemy submarines also began to enter the Mediterranean and to operate off the North African coast. In November our offensive in Libya caused an intensification of the German effort, and towards the end of the month the U331 sank H.M.S *Barham*. In the Atlantic at the beginning of November the scale of effort on the part of the enemy was probably the greatest, and the scope of his patrols the widest spread, of the whole Atlantic campaign up to that time, but in the last ten days there was a perceptible slackening of the tension. Our losses were the lowest since May 1940.

The lull which had begun in the Atlantic during the last ten days of November continued into December, and no more than twenty U-boats were at sea during the latter month. The enemy was engaged in preparations for the campaign in American coastal waters which opened at the end of January 1942. Another factor contributing to the quiet spell in the North Atlantic was the enemy's effort to increase the number of his submarines operating in the Mediterranean. Several of them while trying to pass the Strait of Gibraltar were either sunk or so damaged that they had to put back to base. In the South Atlantic the German offensive was hampered by the sinking of supply-ships by H.M. Ships *Dorsetshire* and *Devonshire*.

The greatest event of December – which fittingly winds up the period under review – was the passage of convoy HG 76. A full-dress attack by submarine and aircraft of a convoy which could not obtain any protection by evasive routeing was defeated at a cost to the enemy of half of the first pack of six or seven U-boats which made contact with the convoy and of one from another pack.

GERMAN TACTICS AND ALLIED COUNTER-MEASURES

This period saw the gradual building-up of the U-boat fleet and the consequent development of pack tactics. We, on our side, introduced “end-to-end” convoys and set to work to make the escort group into an effective team. Both sides had to cope with the difficulties caused by the dilution of skilled crews.

During this time there was a change in the type of men in command of the U-boats. The “aces” – the men who held commands in August 1939 – had passed from the scene and their places were taken by those who had joined the submarine arm in 1939-40. The new men, trained by those of the “aces” who had escaped death or captivity, inherited their glory but not all their skill. Taught to regard themselves as a *corps d'elite*, the 1941 captains and crew had high morale which made up for the deficiencies of their training. A U-boat starting with a “green” crew would return from a patrol with perhaps only a few thousand tons of sunk shipping to her credit but with a reasonably experienced crew, which could be broken up to form a nucleus for several more “green” crews. On the whole this system worked well enough, and the exchange rate – ships sunk against U-boats destroyed - was very much in the enemy's favour at this time. But there were occasions when it broke down disastrously. U570

surrendered, the captain of U501 jumped from his conning-tower and landed dryshod on the deck of HMCS *Moosejaw*; the U111 was no match for HM Trawler *Lady Shirley*; and the passage of convoy HG 76 in December 1941 showed how U-boats fared when attacking a convoy escorted by a well-trained escort group.

By the middle of 1941 the "Flower" class corvettes were available in some force, but the provision of adequately trained Anti-Submarine crews was a great problem. To meet this the training was intensified and shortened. In May 1941 an analysis of ASDIC attacks was made. It showed that lack of success was due to such causes as incorrect settings of depth-charges, to loss of contact as a result of bad handling of ships or bad operating, to insufficient allowance being made for the U-boat's movements, and to bad drill causing delay in the dropping of depth-charges. Energetic steps were taken to remedy this state of affairs and by August an improvement was noted.

In the autumn of 1941 there appeared a tendency on the part of the U-boat captains to take escort vessels for their targets. Fortunately this did not long persist, but it is at least arguable that at that time the loss of warships and their trained crews might have been even more serious than the destruction of merchant ships and their cargoes.

The steps taken to ensure so far as possible the survival and rescue of the crews of torpedoed ships are sometimes overlooked when considering our counter-measures. The efforts of the Royal Navy to keep open the trade routes would have been of no avail without the willingness of the seamen of the Merchant Navy to put out to sea. The normal peace-time provision for saving life was early found inadequate, though not before there had been heavy losses of seamen from merchant ships torpedoed in mid-Atlantic. Survivors were interviewed at the Admiralty and elsewhere. Their accounts of the sinking of their ship, of their survival and their rescue, together with their suggestions for improvements, were considered and eventually lifeboats became so well equipped that it was almost difficult to find room for the men.

The Focke-Wulf aircraft which had sunk many ships by bombing in the early part of the year were, during this period, closely co-operating with the submarines which they homed on to the convoys. We replied to them by providing merchant ships with a fighter which could be catapulted, and later with the first escort-carriers, of which H.M.S *Audacity* (the former German *Hannover*) was the most famous.

On 16 September 1941, when the 150th HX convoy sailed from Halifax, Nova Scotia, part of its escort consisted of United States warships – a portent of things to come.

The growing strength of Coastal Command is reflected in the diagram which shows how the cluster of sinkings in the North-Western Approaches in the second period was pushed westward and broken up. The Sunderlands with which Coastal Command began the war were joined by Catalinas late in 1940 and by Liberators in the early summer of 1941, and the U-boats mainly conducted their operations in 1941 outside their range. The work of the aircraft was laborious, monotonous and not immediately rewarded, but on 25 August 1941 a Catalina aircraft of 209 Squadron and a trawler sank the U452 about 320 miles west-north-west of the Butt of Lewis, and two days later a Hudson of 269 Squadron made history by forcing the surrender of the U570.

If the particular problem of the Navy was to create efficient groups of surface escorts, the Navy and Coastal Command had together to deal with the logical extension of the problem – to form the surface escort and the air escort of a convoy into one efficient Anti-Submarine force. This was no easy matter, but the events of the last week of August 1941 showed that we were moving in the right direction. The enemy had concentrated in the North Atlantic what was, for the time, an exceptionally large submarine force. Evasive routing was still our most powerful counter-measure, but there were nine convoys at sea. The five homeward-bound arrived without loss; only six or seven ships were sunk out of the outward-bound, and one of them, HG 70, although sorely beset, fought its way through without loss. The vigilance, ingenuity and flexibility shown in these operations won praise from the highest quarters.

PERIOD IV

The Campaign in American Waters

(December 1941 to July 1942)

POLITICAL AND GENERAL

On 7 December 1941, the Japanese attack Pearl Harbour. This is immediately followed by the German declaration of war on the United States. During this period the Royal Navy has to send convoys to Russia and to Malta – both of them extremely strenuous operations – as well as cover the big troop movements to the Middle East which will make possible the victory of El Alamein. A large number of the independent ships sunk in this period are bound from US ports to the Middle East with “lend-lease” supplies for the British and Russian armies.

In a German “write-up” of Admiral Doenitz in July 1942, it was said, “He has made his contribution to the Kharkov battle in American waters.”

THE U-BOAT OFFENSIVE

The declaration of war on the USA must have come at a good time for the German U-boat command. Apart from the fact that their offensive against our sea-borne trade in 1940-41 had had only limited success, the boats begun in the winter of 1939-40 were coming forward in large numbers and the dilution problem, which was most acute in the middle of 1941, had solved itself. The U-boats may not have sunk as many ships in 1941 as the enemy would have liked, but the “rate of exchange” had been very much in his favour and almost every patrol provided the U-boat command with a number of reasonably well-seasoned seamen who could be distributed among the new crews and leaven the mass of inexperienced ratings. The rich harvest reaped at low cost in American waters greatly assisted this process. Considerable though the strain of operating so far from base – and sometimes in tropical waters - must have been, it was much less than the strain of fighting a convoy battle against escort groups continually increasing in efficiency.

About a month elapsed between the American entry into the war and the opening of the U-boat campaign. On 12 January 1942, a large force of U-boats, perhaps twenty in all, began to

operate off the Atlantic seaboard of the USA and in the coastal waters off Newfoundland. In less than three weeks nearly a quarter of a million tons of shipping had been sunk, mostly off such focal points as Cape Hatteras, North Carolina, or the entrance to Hampton Roads, Virginia. The submarines were able to select their targets without difficulty, with the result that many tankers were sunk and something of a petrol shortage was caused in the eastern states. Escort convoys were left alone and passed unassailed through water in which many independently-routed ships had been sunk.

A month after the opening of the campaign in North American waters, three German submarines entered the Caribbean and attacked the oil traffic at its source - the Gulf of Venezuela, Aruba and Curacao. Six German and Italian submarines later operated to the eastward of Trinidad and, as the A/S forces in the area were slender in the extreme, no fewer than twenty-three tankers were sunk in the month. The total sinkings in the North Atlantic rose to nearly 310,000 tons. The severity of our losses in tankers may be judged by the fact that the German claims in this respect, though exaggerated as usual, were on this occasion not far from the truth.

The only part of the Caribbean left unpatrolled by the U-boats was the Panama Canal Zone. Two of them settled down for two or three days in the Florida Strait and took toll of shipping entering the Gulf of Mexico, while further north several were on patrol off Cape Hatteras and in the area to the southward of Newfoundland and Nova Scotia. It was perhaps a sign of the confidence of the German command that a pack of five or six submarines was ordered to attack an outward-bound convoy when it was about 450 miles south-east of Cape Race. The action was protracted, lasting from the night of 21/22 February to the night of 23/24th; but only four ships were lost.

In March the losses in the North Atlantic passed the half-million mark and the month as a whole was the worst of the war up to that time. Very nearly half of the losses consisted of tankers. The offensive in the Caribbean ceased – though not before 62,000 tons had been sunk – probably because the patrols could only be carried out by the 730-tonners, of which the enemy had comparatively few. The 500-tonners, concentrated in groups along the American coast between Charleston, South Carolina and New York, had good hunting. Lying submerged close inshore by day, they would surface at night to make their attacks, although

on occasions ships were sunk in daylight. Between twenty and twenty-five U-boats were operating in American waters at this time.

The enemy continued to make a small-scale offensive on the North Atlantic convoy routes. The U-boats were brought further eastward and there was a renewal of activity in the North-Western Approaches and near Rockall, but our counter-measures were more than adequate and the force was soon withdrawn. By way of diversion, two or three U-boats were sent to the Freetown area, but by far the greatest effort outside the West Atlantic area was made against the North Russian convoys by about twenty submarines operating from bases in Norway.

Allied losses fell in April, but this was due rather to the melancholy expedient of restricting sailing than to any really effective counter-measure. While patrols were maintained by the enemy between Jacksonville, Florida, and New York and in an area 400 miles west to north-west of Bermuda, four submarines entered the Caribbean and two or three - probably Italian - operated off the Brazilian coast. Elsewhere in the Atlantic there was very little activity. The gloom was somewhat relieved by the first sinking of a U-boat in American waters. This was the U85, sunk on 14 April in shallow water off Cape Hatteras.

In the middle of May the first convoy was established between Hampton Roads and Key West and an immediate effect was apparent. In the first half of the month the enemy had still been able to find easy targets off Cape Hatteras and in the Florida Strait. When convoys were instituted the U-boats withdrew to focal points where it was not in force - off the mouth of the Mississippi and in the Yucatan Channel. They also entered the St. Lawrence. That the month was still extremely profitable for the enemy was shown by the fact that in the North Atlantic area 120 ships of 579,000 tons were sunk - the worst month in the war to date, worse even than the preceding March. Seven of these ships were sailing in convoy ON 92, which was attacked on two nights in the middle of the month.

The same conditions persisted into June. The enemy had between sixty and sixty-five submarines in the North Atlantic and they were kept at sea for longer periods than we had thought would be possible. Besides the operations in the Gulf of Mexico, patrols were maintained off Cape Hatteras, on the routes between Bermuda and the Antilles, and between

New York and Halifax. By way of a special effort, one of the new 1,600-ton U-boats laid mines in Chesapeake Bay, but these only accounted for three ships before the area was swept.

In spite of this increased effort in the Western Atlantic, the enemy could afford to make an old-fashioned attack on an HG convoy. Almost exactly six months after the memorable passage of HG 76, HG 84 was attacked by some seven or eight U-boats, apparently representing a surplus temporarily unemployed and available in the Biscay ports. Five ships were sunk and unfortunately the enemy did not have to pay dearly for them.

July saw the end of the six months campaign in American waters which had brought such great profit to the enemy. The submarines were withdrawn entirely from the Central Caribbean and the Florida coast and partially from the Gulf of Mexico, but patrols were maintained in the Western Caribbean and in Mexican coastal waters between Tampico in Mexico and Corpus Christi in Texas. The weight of the U-boat efforts shifted to the east of Trinidad, to the Freetown area and to the North Atlantic convoy route between Canada and England. Sinkings in the North Atlantic fell by 260,000 tons.

GERMAN TACTICS AND ALLIED COUNTER-MEASURES

The enemy's operations in American waters called for little tactical skill, as he met at first with little opposition. In the summer of 1942, however, when U-boats were being hunted by our escort vessels, it was noticed that they were going very much deeper. In an attack on 13 July 1942, HM ships *Spey* and *Pelican* had a long hunt in which contact could be held firmly from 1,400 yards down to 700 yards, where it was lost. An attachment for the ASDIC set was designed to meet this difficulty. It was in this period that the German SBT ("soap bubble target") was first observed and the modification in U-boat tactics designed to make the best use of it.

The Americans found they were short of craft suitable for patrolling the focal areas, so in February 1942, twenty-four trawlers and ten corvettes were sent over. The latter were renamed and manned by the US Navy. Patrols by aircraft and by blimps were also maintained. It was a tribute to the efficacy of the counter-measures eventually developed that the Germans withdrew their main force of submarines when they did, for the going was still good.

It must, however, have been clear to the Germans that operating against coastal convoys with powerful air cover would be suicidal.

In May 1942 convoys were introduced and in the same month a “splendid increase” in the number of A/S attacks in the waters west of 40:00 W was recorded. In June there was another increase, and on some days as many as four attacks were reported. In August when the main battle of the Atlantic had been resumed and the proportion of losses in convoy to independent ships had risen from 1 per cent in March to 10 per cent in May and June and 17 per cent in July, to 45 per cent in August, more than 200 attacks were reported by the Commander-in-Chief, US Fleet.

In May, Coastal Command, strengthened by squadrons lent by Bomber Command, began an offensive in the Bay of Biscay. This was maintained in June and also made considerably more effective by the introduction of the Leigh Light Wellington. In July it was reported – as it had already been reported from the Western Atlantic – that a U-boat had refused to dive and had stayed to fight it out on the surface when attacked by aircraft. It was about this time that Admiral Doenitz made the remark – which he must have often regretted since – “The aircraft can no more eliminate the U-boat than a crow can fight a mole.”

During this period there was a satisfactory use of H/F D/F and M/F D/F, and senior officers of escorts showed increasing skill in their use of the information obtained in this way.

The first half of 1942 saw considerable development in weapons. Aircraft were provided with the 250-lb depth-charge (torpex-filled) and the 25-ft setting was at last made effective. The mark X

Depth-charges were delivered to ships and the fitting of “hedgehogs” continued, but ships showed no particular keenness to use the new weapons and no kill with it was recorded until November 1942.

PERIOD V

The return to the North Atlantic Convoy Routes

(August 1942 to May 1943)

POLITICAL AND GENERAL

The great event of this period is "Operation Torch," the invasion of French North Africa, which begins on 7 November. Six months later the Axis is cleared from North Africa, the French West African possessions having already come over to the Allied side. Operation Torch is a great success from the A/S point of view, but a success achieved at the cost of weakened escorts in the North Atlantic and the postponement for six months of the formulation of the Support Groups.

THE U-BOAT OFFENSIVE

In August a campaign against shipping in the eastern and north-eastern approaches to Trinidad and another in the Windward Passage, between Cuba and Haiti were combined with a resumption of old-style convoy battles, in the course of which four night attacks and seven day attacks were made on Atlantic convoys. The convoy battles were fierce. In the first, against convoy SC 94, which lasted from 5 to 10 August, eleven ships were lost and four U-boats were sunk. It was noticed that some U-boats were handled much more skilfully than others; one captain, for example, torpedoed five ships and another four with salvos fired in daylight.

In September the transatlantic convoy routes were again the main battlefield, with subsidiary campaigns around Trinidad, in the mouth of the St. Lawrence, and off the Cape of Good Hope. The last development had been expected, the only doubt being whether operations would be extended to the eastern or western side of the South Atlantic.

It was calculated that the enemy was devoting half of his efforts to the North Atlantic (mainly between 20:00 and 45:00 W, but including the Nova Scotia, United States and Freetown

areas). For the rest, 20 per cent of the total effort was expended in the Caribbean and Trinidad area, and 10 per cent in each of the South Atlantic, Arctic and Mediterranean areas.

Operation Torch, planned to begin on 7 November, cast its shadow over the preceding month. The German command seems to have thought that the blow would be directed against Dakar and disposed a force of U-boats to the east and south-east of the Azores and to the south-east of Madeira. An unlucky Sierra Leone convoy ran into this concentration and was severely mauled, but the pursuit, after lasting for four days, ceased abruptly before it drew the U-boats away from the area south-west of Portugal. The Torch convoys reached the Mediterranean without loss, but against this achievement must be set the heavy casualties which four trade convoys experienced in the North Atlantic and the losses suffered off the Cape of Good Hope, where a soft spot was energetically exploited by the enemy. In American coastal waters there was no activity except in the Trinidad area. This was a particularly useful campaign for the enemy as it cut across the route taken by ships carrying bauxite to American factories and the route taken by ships carrying aircraft and other warlike stores to the Middle East.

When the enemy realised his mistake as to the Allied intentions in Africa he withdrew his submarines from the trade routes and sent them to the Mediterranean. By doing so he revealed the measure of his prudence in having withdrawn the bulk of his forces from American waters when concerted counter-measures there had proved effective.

Operating against convoys proceeding in coastal waters and amply provided with air cover, the U-boats in the Mediterranean suffered heavy casualties and sank comparatively few ships, although some of these were liners of large tonnage. The wear and tear of constant crash-diving on the approach of aircraft was extremely heavy on the crews of the U-boats and intensified the dislike felt by their captains for the narrow waters of the Mediterranean.

By the end of the month the enemy had sent his submarines back again to the trade routes, leaving the North African operation to be cared for by the comparatively small force which had passed into the Mediterranean and was based at Spezia. The number of U-boats available for operations was by this time not far short of 100, and in the third week of November, in spite of his efforts in the Mediterranean, the enemy had thirty-two of them in the Cape Farewell-Iceland-Western Approaches area and forty south of 44:00 N and east of 40:00 W. Four transatlantic convoys were attacked; one of them lost fifteen ships in attacks over three

nights. The U-boats exploiting the South African “soft spots” proceed somewhat further east and entered the Mozambique Channel. In the Trinidad area and to the eastward, in the St Paul’s Rock area, the U-boats did not achieve much.

Taken over the whole battlefield, the November losses from submarine attack amounted to 712,000 tons, thus taking first place in the casualty list – a place from which the month has, happily, never yet been displaced. The losses off North Africa amounted to only about 20 per cent of the whole.

December might have been a most successful month for the Allies, and right up until the last week it seemed that we had the measure of the enemy. In the last week of the year, however, an outward-bound convoy suffered disastrous losses and thereby showed that without the assistance of air cover, as was the case with this convoy, surface escorts were physically incapable of warding off concerted attack by any pack of submarines of more than twice their own number. The succeeding months were to be largely taken up with the effort to bridge the gap – the “black pit” – in the Atlantic, which was out of range of aircraft based on either side of the ocean.

The moral was pointed by the failure of the enemy’s efforts against three HX convoys. HX 217 was persistently shadowed. It had the same number of U-boats (twenty) operating against it as had the unlucky outward-bound convoy, but aircraft gave cover at extreme range and thereby prevented the tactical development of any attack with which the surface escort was unable to compete. It must be admitted that HX 217 had by far the more efficient escort – a mixed British, Polish, and Norwegian group - and the mere provision of air cover might not in itself have made much difference to the outward-bound convoy.

The weather in the North Atlantic in the fourth winter of the war was even worse than it had been in the preceding years. It was calculated that the number of days on which gales blew in some part of the North Atlantic between 1 October and 18 February were:

	<i>Force 7 or more</i>	<i>Force 10 or more</i>
1939 – 40	59	2
1940 – 41	81	2
1941 – 42	88	7
1942 - 43	106	10

The strain on both sides was great. The 100 U-boats at sea – fifty of them north of 50:00 N and between Newfoundland and the longitude of central Iceland – caused the loss of about 200,000 tons of shipping in January, with marine losses (the next largest cause) at 110,000 tons, or about half as much. February told much the same tale: only two convoys were attacked, but in both cases losses were heavy.

In March there was a crisis in the Battle of the Atlantic. The constant bad weather had disorganised the escort groups, many ships were damaged, and the enemy, assigning 110 submarines in the North Atlantic (half of them north of the 50th parallel), made a tremendous effort. Very large packs operated. The number of ships sunk by U-boats in the North Atlantic rose from twenty-seven in January and forty-one in February to seventy-four in March. More ominous was the fact that 68 per cent of the tonnage lost during the month was in convoy, the highest figure of the war. Moreover, the figure in February had been 60 per cent.

A curious feature was the distribution of losses over the month. Of the 100 ships reported sunk, forty-one were lost in the first ten days and forty-four in the second ten days. Then the enemy's effort slackened and only fifteen ships were sunk from 21 to 31 March.

Perhaps 20 March 1943 will be found to mark the high tide of the U-boat effort. Thereafter the enemy's strength began to ebb away. It was not only that the tonnage sunk in April in the Atlantic was 247,000, as compared with 529,00 in March, and that the sinking of U-boats was well about the average for the previous twelve months; for the first time the enemy failed to press home attacks when favourably situated. Morale and efficiency – at best delicate plants – withered rapidly in the black month of May. In the first week of the month a great battle was fought around a convoy to the north-east of Newfoundland. Ten ships were lost in a night and a day, until the escort reformed the convoy and, with the aid of a Support Group, exacted one U-boat for every two ships lost. After this defeat the enemy made one more

effort against a convoy – the SC 130 – which, though severely beset between 18 and 21 May, reached the United Kingdom without loss. It was significant that of the 120 submarines at sea at the beginning of May, seventy of them north of 45:00 N had been reduced to eighty-five and twenty-two respectively by the end of the month.

GERMAN TACTICS AND ALLIED COUNTER-MEASURES

The captain of the U 353 (sunk in October 1942) gave valuable information about the tactics used at that period. According to him there were three main formations.

- 1) *The patrol line.* U-boats up to perhaps twenty-five in number, spread about twenty miles apart on a given line of bearing across the convoy routes, patrol at right angles to the line, not going farther than ten miles or so from it. The sighting of a convoy is reported to Control, which passes the signal to the other U-boats in the line. An independently-routed ship can be pursued without reference to Control.
- 2) *Reconnaissance sweep.* U-boats are withdrawn from the patrol line by Control, which signals the limits of the area to be swept, the time of the beginning of the sweep, and the units to take part. The boundaries of the area to be swept may be 150 miles apart, the submarines being spread about twenty miles apart.
- 3) *Attack Formation.* When a unit in a reconnaissance sweep has made contact with a convoy and reported, if possible, the course, speed, and escort numbers of the convoy (the importance of the escort destroying the contact-maker was therefore very therefore very great), a group of U-boats is ordered by Admiral U-boats, to take up an “attack formation” – a semi-circle round the line of approach of the convoy. The contact-keeper takes command of the group.

Each unit attacks at its discretion. There is no such thing as co-ordinated action between U-boats once the battle is joined, although they may keep in touch with each other by W/T. Attacks are continued until Control orders them to be broken off. The captain of the U 353 generally worked around under cover of darkness in advance of the convoy and then fired all tubes. Alternatively, there was the manoeuvre of entering the columns, but this was considered to be very risky.

To counter the growing efficiency of our ASDIC attacks, the enemy developed the “submarine bubble target.” After the first evidence of its existence had been found by divers working on the wreck of the U85 in April 1942 further evidence came in the following autumn both from reports of ASDIC attacks and from the interrogation of survivors. There were at least three variations of the device, one to create a patch of disturbed water, another to simulate the humming of a submarine’s electric motors, and a third to create an oil patch for the deception of aircraft. The chemicals, probably of some carbide compound, were contained in balls about nine inches by six inches. The U-boat, having released them so as to place the bubbles between herself and the attacking ship, would switch off her engines and proceed in absolute silence. At first operators had some difficulty in distinguishing between the true and the false targets, but they were not deceived for long.

The Germans also developed a search-receiver which enabled the U-boats to know when aircraft were in contact with them. The immediate effect of the adoption of this device was a considerable falling off in the number of sightings and attacks. The U-boat, on obtaining a reading, would generally dive, so that safety was gained at the cost of prolonging the time spent in such dangerous areas as the Bay of Biscay, and there were apparently several captains who seldom, if ever, used the gear.

The renewal of the battle of the convoy routes found us still without sufficient escort vessels. In September the first of the Support Groups began operations in the North Atlantic, but it made only one operational cruise before the immensity of the North African operation drew off every escort vessel that could be spared. At the beginning of November the Prime Minister held the first meeting of his Anti-U-boat Committee, a sure sign of the seriousness of the position.

But for the extraordinarily bad weather of the winter of 1942-43, the crisis that occurred in March, 1933, might have come earlier and lasted longer. By February, 1943, very long-range aircraft were becoming available to close the hitherto uncovered gap in the North Atlantic, but by March there were so many ships damaged by storms that the efficiency of many of the groups was impaired. What this meant may be illustrated by the *cri de coeur* uttered about this time by the senior officer of a convoy escort who found himself with a collection of escort vessels instead of an escort group: “Loyal and intelligent as was the co-operation shown by

the ships allotted, it could not make up for the group training and mutual understanding which had been achieved and which lie at the very root of successful convoy escort”.

About 20 March the enemy's effort began to ebb. A week later the first of the Support Groups was at sea, and soon after that small escort carriers began to appear. At first the Support Groups were mainly composed of Fleet destroyers, but by May these vessels were able to return to their usual duties and their places were taken by the destroyers, sloops and frigates which had come forward. With Coastal Command strengthened by new aircraft and reinforced by United States squadrons, tactics were worked out to combine to the best advantage the close surface escort, the Support Group – with or without carrier – and the air escort. Long months of training had made the groups and squadrons into efficient units, and they were now co-ordinated. Under this pressure the enemy's effort faltered; it was observed in April that U-boats were not pressing home their attacks, and after the middle of May they were withdrawn from the trade routes.

Coastal Command had played a great part in this triumph. Bomber Command had also taken a hand. During the winter of 1942-1943 thousands of tons of bombs were dropped on the Biscay ports. The U-boats themselves might be lying snug in their pens, but scarcely one stone was left standing upon another in the adjacent towns, and the amenities on shore to which the crews might look forward during their long patrols were greatly reduced. When they put to sea the U-boats had to pass through waters which Bomber Command continually mined, and when they were out in more open waters they were attacked by Coastal Command aircraft before they had had an opportunity to take any offensive action themselves. Progress during the first six days out from harbour and the last six days of a patrol could only be made slowly and in constant peril from depth-charges or mines. The offensive which Coastal Command had always maintained was greatly intensified in April and May, during which the number of attacks made by its aircraft was nearly doubled.

PERIOD VI

The Latest Phase

(May to December 1943)

While the surface and air escorts were shattering the enemy's attacks on our convoys in the North Atlantic, Coastal Command aircraft were harrying the U-boats nearer home. In May, for the first time, the number of sightings in the Command exceeded 200, and attacks exceeded 100. Perhaps the outstanding development of this period was the "follow-up" technique. Four aircraft, two from 58 Squadron, one from 228 Squadron and one from 10 Squadron RAAF, showed what could be done with this method when they destroyed a U-boat 270 miles south-west of the Scilly Isles on 31 May.

On 12 June we had evidence of the enemy's counter-measures; an aircraft in transit from Gibraltar to the United Kingdom sighted five U-boats proceeding in formation. We were not slow in our appreciation of this development. The apparent withdrawal of the enemy from the convoy routes had released some escort forces, and on 17 June the Second Support Group sailed from Liverpool with orders to co-operate with aircraft against these U-boat formations. On 24 June the group marked the opening of the summer offensive in the Bay by destroying two U-boats in the course of a few hours. This same group was later to take part with aircraft of 461 and 502 Squadrons in the destruction of an entire formation of U-boats. This occurred on 30 July to 2 August when the offensive reached its climax.

In these ten days a score of U-boats were destroyed in the Bay area by the combined efforts of surface craft, of Coastal Command and of United States aircraft which had joined in the operations about the beginning of July. The casualties of the air force were in keeping with their achievements, but it was found that the U-boat's flank had the peculiar psychological effect of improving the accuracy of the aircraft's aim. U-boats were sometimes blown in half, and, if the success of the air offensive left anything to cavil at, it was that the survivors for interrogation were few.

Further afield, United States escort carriers were operating with success in the Azores area, sinking U-boats in a part of the North Atlantic which, by reason of its calm waters and its

distance from airfields, was ideal for re-fuelling the smaller U-boats operating in Central American waters. This, combined with the sinking of several supply U-boats in the Bay of Biscay and in the Iceland-Faroes area in the last week of July and the beginning of August, completely disorganized the enemy's campaign in the latter months.

The growing strength of the Allies prevented Admiral Doenitz from recouping himself by the successful exploitation of "soft spots". The Brazilian area, once a happy hunting ground, became the scene of numerous sinkings, mostly by aircraft based either on the mainland or on Ascension Island. On 11 August a U-boat was sunk to the south-westward of Bathurst, the action being one of such particular gallantry that it won a posthumous VC for the pilot. A few days later, Catalinas sank a U-boat to the south-westward of Madagascar. Much was made by the Germans of the dispatch of U-boats from the Biscay ports to the Indian Ocean, and certainly their crews showed a high degree of endurance in these long patrols, but where they had expected independently routed victims they found convoys and achieved little. In October an aircraft of 244 Squadron destroyed a U-boat operating in the Gulf of Oman.

In September the U-boats returned in force to the North Atlantic convoy routes. They were given a new weapon in the acoustic homing torpedo, and were sent out to re-establish the conditions of 1942.

The Bay offensive had by this time come to an end and the groups had returned to their convoy duties. The enemy had, by his use of the glider-bomb, made the employment of surface craft rather hazardous, and by a powerful concentration of long-range fighter aircraft had forced Coastal Command to move its area of operation to the westward. Nevertheless, U-boats still crept across the bay, surfacing only for the unavoidable need to charge batteries.

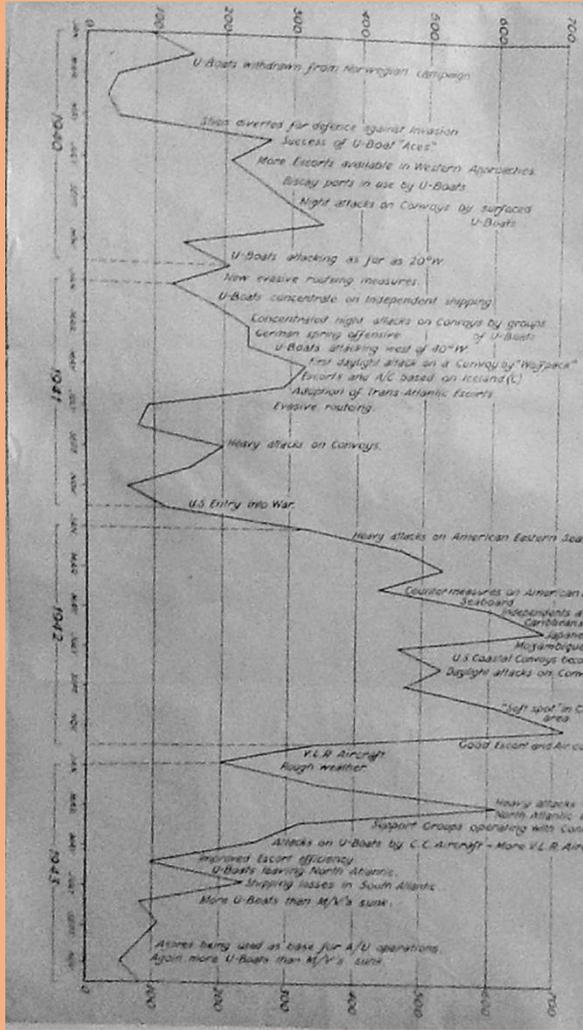
The convoy which was attacked – ON 202/ONS 18 – certainly had a rough passage, but the U-boat captains were not the men of 1942, and, even if they had been, they found themselves battling against stronger and better-trained escorts manned by crews which, if they had not all taken part in the slaughter of the Bay offensive, had had the benefit of several peaceful passages of the North Atlantic during the summer.

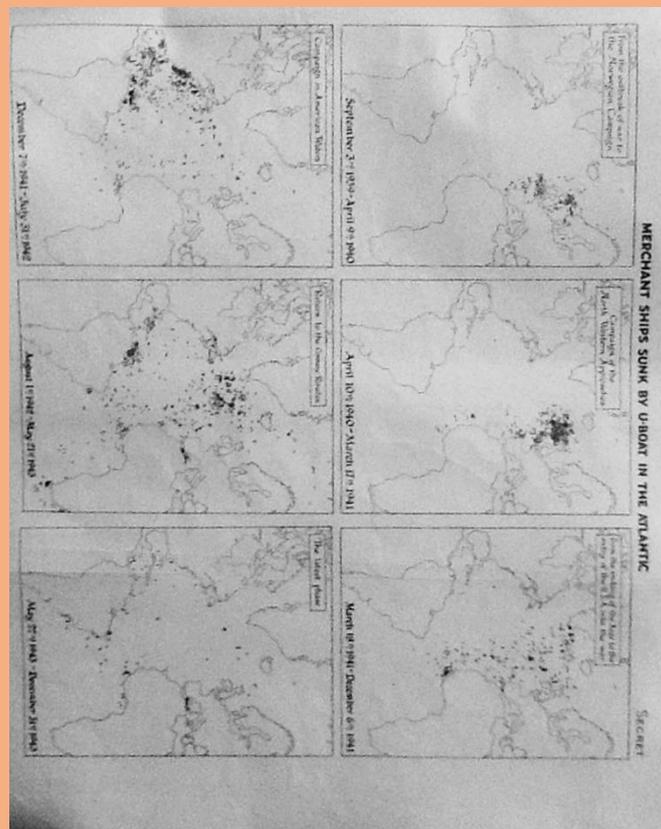
The enemy's attempt failed, and he could not apparently think of anything better than to go back two or three years and call in the aid of long-range aircraft to shadow convoys. He found, however that there was now a fundamental difference as compared with 1941. The U-boats,

sacrificing mobility for comparative safety and spending the day submerged, could no longer travel at speed on the surface during daylight to get ahead of a convoy reported to them by aircraft. The U-boat control had either to station one large pack ahead of the convoy, in which case there was one heavy night attack, or string out U-boats along the convoy's probable course in order to subject it to a series of small attacks. As these tactics depended upon aircraft reports it followed that, in the autumn of 1943, after the September offensive had definitely failed, the greatest activity was between Gibraltar and the United Kingdom. The grant by the Portuguese Government of bases in the Azores came most opportunely and the enemy had very little success, even when he used glider-bombs, although he did at least force our convoys to take a more westerly route and thereby increase the time of passage between Great Britain and Gibraltar. In November, as had happened in August, more U-boats than merchantmen were sunk, and the year ended with the enemy showing extreme caution, which made the destruction of a U-boat a rare achievement.

DIAGRAM OF M/V LOSSES BY U-BOAT

(ALL TONNAGES)





Merchant Ships Sunk By U-Boats in the Atlantic

This review of the U-boat war must of necessity end unsatisfactorily, for it does not seem that we have yet reached the end of the phase of the Battle of the Atlantic which began with the withdrawal from the convoy routes in May. The enemy has obviously taken a bad beating, but he is not likely to lay down one of the most powerful weapons in his armoury while it still has any power to harm us.

Great though the success of the Allies has been during 1943, it must not blind us to the immensity of the effort by which that success has been won, nor to the fact that even now the power of the U-boat to destroy our hopes of victory is not crushed but merely held in check.

January 1944