THE ROYAL NAVY AND THE ARCTIC CONVOYS

A Naval Staff History

With a Preface by Malcolm Llewellyn-Jones

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Foreword

Admiral Sir Jonathon Band, KCB, ADC, First Sea Lord and Chief of Naval Staff

Convoys in the Second World War have been largely associated with attacks by U-boats but, as this Naval Staff History of the Arctic Convoys to Russia shows, these operations were sailed in the face of multiple threats from the air and surface, as well as from underwater enemies. By and large, these attacks were successfully countered by the tactical expertise and the determination of the Royal Navy, and the steadfast courage of the Allied merchant marine. Of course, some convoys suffered heavy losses, but lessons were learned and rapidly applied, as the account presented here shows. This History deals with the naval side of the Arctic convoys, which were started very soon after the German invasion of Russia in mid-1941, at a time when Britain was sorely pressed by enemy advances and America was not in the war. The convoys were continued, even though British fortunes remained bleak over the succeeding months and the provision of convoy escorts placed a heavy strain on British resources. These operations amply demonstrated the flexibility of seapower, as many ships were deployed from other commands to support the Home Fleet, and subsequently re-assigned to other missions in theatres often hundreds of miles away. As the new Preface shows, a considerable quantity of war material was transported to Russia during those eventful years. Much of the cargo consisted of unglamorous items such as trucks – trucks that moved the Red Army and its supplies, first to blunt the German advances and then to gain its historic victory.

The Western Alliance has, for may years now, enjoyed almost complete control over the World's oceans. It is easy to forget how fragile this command can be, even when threatened by weak asymmetric threats. It is therefore easy to take for granted that the oceans can by used for our own purposes: to transport armies and supplies at will. British military campaigns ashore are supplied overwhelmingly by sea. When this Staff History was written, these lessons were in the forefront of most naval officers' minds. Sixty years on, it is perhaps time for a gentle reminder that our hegemony may not automatically remain intact and that we may, once more, have to fight supplies through a future battlezone. The History shows how the Royal Navy was able to plan and execute the complex tactical operations required to see the Arctic convoys through to their destination, without (for the most part) unacceptable losses – at least by the standards of their day. These operations also demonstrated that, against a multitude of threats, the age-old strategy of 'convoy and escort' succeeded in simultaneously protecting trade and inflicting heavy loss on the enemy. Even taking into account the great changes in naval technology, convoys remain vital for the survival of the United Kingdom – a lesson we forget at our peril! The security of the High Seas and maritime trade remain as important as ever. As for this Staff History, it is now fifty years old, but the account, written with the echoes of the events still ringing in the author's ears, retains an immediacy and candour that the casual reader and academic researcher alike will not find in other secondary accounts.

Preface to the Published Edition[1]

The Naval Staff History describing the *Arctic Convoys, 1941–1945* was first issued by the Historical Section of the Admiralty as a Confidential study for use within the Royal Navy in 1954.[2] The Staff History grew out of the earlier Battle Summary No. 22 compiled by Commander J. Owen of the Admiralty's Historical Section and issued in 1943 to cover the convoys run to North Russia in the last half of 1942 and early 1943. That wartime Battle Summary was subsequently revised and expanded by Commander L.J. Pitcairn-Jones to include all the main convoys run from August 1941 until the end of the war using all the historical records which were at hand after the war. The original title of the Battle Summary, *Russian Convoys, 1942*, was something of a misnomer, for '. . . by far the greater number of ship in the convoys were American or British, and their defence was almost entirely a British commitment . . . .' The title was therefore changed to *Arctic Convoys, 1941–1945*, which better described the operations.[3]

Although long since declassified, *Arctic Convoys, 1941–1945* is now published for the first time. The history is deliberately reproduced in facsimile with no attempt at revision (although later manuscript amendments, made by the Historical Section, have been appended at the end of this Preface). Only this Preface is new, and is intended to provide some additional context for the convoys and, in particular, to highlight support provided to Russian forces in their struggle against Germany, since the original Staff History was narrowly focussed on the naval aspects of the Arctic Convoys to Russia. In 1957, the Admiralty issued the Staff History covering some of the Mediterranean convoys, whose operational similarities and differences are briefly discussed in this Preface before a few words are added on the continuing relevance of the Arctic Convoys Staff History.

What did the Arctic Convoys Achieve?

In Mr Churchill's dramatic words, the German attack on Russia in June 1941 came at a time when:

> At last our munitions factories were pouring out their supplies of every kind. Our armies in Egypt and Libya were in heavy action and clamouring for the latest weapons, above all tanks and aeroplanes. The British armies at home were eagerly awaiting the long-promised modern equipment which in all its ever-widening complications was flowing at last towards them. At this moment we were compelled to make very large diversions of our weapons and vital supplies of all kinds, including rubber and oil. On us fell the burden of organising the convoys of British and still more of United States supplies and carrying them to Murmansk and Archangel through all the dangers and rigours of this Arctic passage.[4]

In this way, Churchill (and President Roosevelt) personally pledged support to the Russian people, and the first Arctic convoy sailed for Archangel towards the end of August 1941, just two months after the German assault.[5] There is no doubt that the Russian resistance to the German invasion:

> . . . brought an immense easement of the strategic burden the British were carrying, but added to the economic burden. Supplies to Russia became an urgent British commitment and large quantities were promptly despatched, including 450 aircraft, 22,000 tons of rubber, three million pairs of boots and considerable stocks of tin, aluminium, jute, lead and wool – all these before the end of September [1941].[6]

The Arctic convoys were to rank alongside the embryo bomber offensive as a surrogate 'Second Front' (though neither satisfied Stalin), and were to provide Russia with considerable war material, especially during the first critical year of the German attack. In late 1950, at the request of the Historical Section, Michael Custance, Ministry of Transport, prepared an assessment of the amount of cargo sent to Russia during the war. The Ministry's records could not provide precise figures, though it was:

> . . . known that between 3½ and 4 million tons of war material of all kinds, including fuel oil and aviation spirit, were delivered to Russia during the period August 1941 to May 1945 . . . .[7]

Custance was able to provide an assessment of the annual quantities of supplies sent, as well as the amounts lost *en route*:

Cargoes in Russian Convoys.[8]

Year	Approximate amount of cargo dispatched from UK or USA (in thousand tons)	Approximate amount of cargo lost *en route* (in thousand tons)
1941	300	10
1942	1,350	270
1943	450	–
1944	1,250	10
1945	650	10
[Total]	4,000	300

These supplies were carried in some 790 ships in 40 convoys between August 1941 and May 1945. These figures need to be seen in context. These shipping figures represent about twice the number of vessels used to deliver the first wave of troops and equipment for Operation 'Torch' in late 1942. Looked at another way, the rate of delivery to Russia via the Arctic was equivalent to the tonnage needed to maintain about four Western divisions during the first month of the 1944 Normandy campaign.[9] The quantity of material transported to Russia had already been provided in an answer to a Parliamentary Question by Colonel Crosthwaite-Eyre, MP, who asked for a comprehensive statement of the weapons and materials, together with their costs, that had been sent to Russia during the war. The Prime Minister, Clement Attlee, summarising the position replied that Britain had:

> Supplied . . . 5,218 tanks, of which 1,388 were from Canada . . . [and] 7,411 aircraft, including 3,129 aircraft sent from the United States of America. . . . The total value of the military supplies despatched amounts to approximately £308 million. We have also sent about £120 million of raw materials, foodstuffs, machinery, industrial plant, medical supplies and hospital equipment.[10]

In his written reply, amongst a vast detailed inventory, Attlee also listed the provision of 4,020 British vehicles, including lorries and ambulances.[11] These figures should be seen in relation to the total quantities of supplies given to Russia during the course of the war by Britain and America. The totals transported:

> . . . *by all routes* included 12,000 tanks, 22,000 aircraft, 376,000 trucks, 35,000 motor cycles, 51,500 jeeps, 5,000 anti-tank guns, 473 million projectiles, 350,000 tons of explosives, besides immense quantities of provisions, clothing, raw materials and other war equipment . . . .[12]

The proportion of these supplied delivered by Arctic Convoys was examined by Admiral Schofield, a wartime Director of the Trade Division. He concluded that:

> Only 22.7 per cent of this vast inventory reached Russia via the Arctic convoys, the remaining 77.3 per cent about which little has been heard, being delivered by the alternative routes, but mainly through the Persian Gulf.[13]

However, this modest figure gives a false impression of the value of the Arctic convoys, for during the first critical months they were the only means of supply and for some time thereafter the other routes through the Gulf area and Far East experienced great difficulties (if not the same dangers from the enemy). As a British Official History notes:

> The drama of the Persian Gulf supply route to Russia was of a different kind; here there was no need for fighting, but a great need for constructional work to increase the capacity of Persian ports, railways and roads. For the first twelve months, the burden of this work was carried out by the British; but by an agreement of September 1942 the United States Persian Gulf Service Command took over the greater part of it. Interruptions on the Arctic route were a powerful stimulus to American and British efforts to develop the Persian Gulf route to a maximum capacity at the greatest possible speed . . . [14]

Thus a *New York Times* correspondent later:

> . . . marvelled in the spring of 1943 how British and American engineers had transformed the 'Persian plains and plateaus into a vast conveyor belt' bearing tons of supplies from Gulf ports to delivery points in Southern Russia.[15]

This route was made practicable because, by this time, Soviet forces had expelled the German army from much of the southern regions of Russia after the victory at Stalingrad. Other Middle Eastern supply routes were tried but contributed little to the overall tonnage sent to Russia. However, in North Pacific waters,

> . . . there was a third supply route of very great importance. Its existence gives striking illustration both of the global nature of the war and of its curious incompleteness. It was the pact of neutrality, maintained almost until the end of the war between Japan and the USSR, which gave full value to Vladivostock as a port of entry for American and also (in minor degree) Australian supplies. At the beginning, the supplies were carried chiefly in United States ships; but the risk of loss through Japanese interception prompted the Americans to transfer large numbers of ships to the Soviet flag, which gave immunity from Japanese attack. By the last quarter of 1944, United States and Canadian supplies were travelling along this route at the rate of 297,000 tons a month. Meanwhile, the close neighbourhood of Soviet and United States territory was demonstrated through the delivery of combat aeroplanes by direct flight from Nome in Alaska to airfields in eastern Siberia. This was the main air route used by the Americans in fulfilment of their protocol commitments; in addition they made use of the air routes via the Atlantic and Africa.[16]

The total volume of supplies delivered to Russia was, at first, equally shared between Britain and America, though by the end of the war America shouldered most of the burden. The volume of supply increased as the war progressed, until near the end, when it became obvious that Soviet demands were more concerned with post-war reconstruction than in directly supporting military operations against the Germans.[17] Supplies were carried predominately in British merchant ships at the beginning and American merchant ships at the end, though from beginning to end the majority of warships escorting Arctic Convoys were British. About half of the merchant ships lost were American.[18] A lecture prepared by Captain Oliver Bellasis in 1943, to be given to a technical audience during the visit of the Tizard Mission to Russia, gave an illustration of the carrying capacity of a single convoy, PQ18, in September 1942, which included:

4,000	Vehicles
800	Tanks
550	Aircraft
11,000	Tons of TNT
157,500	Tons of miscellaneous and very valuable cargo.[19]

This might be compared to the 250,000 tons of equipment needed to complete an American armoured division transported across the Atlantic. The achievement on the Persian overland route was impressive, but it is worth comparing the tonnages conveyed with those of just one convoy, PQ18, given above:

> In the summer of 1942 clearance of supplies to Russia over the Persian route was 15,000 tons a month. By the end of the year it had risen to 45,000 tons. By the summer of 1943 it had risen to 170,000 tons. In the summer of 1944 it reached the peak figure of 290,000 tons a month.[20]

During the autumn of 1941 Russian aircraft production – which had been barely 70–80 per month – was been reduced by some 60%. Supplies of aircraft, therefore, became the first urgent requirement. Britain and America agreed to supply, on a fifty-fifty basis, some 400 per month, in the ratio of three bombers to one fighter – though this ratio was later reversed.[21] The Germans noticed that by the spring of 1942 they were being opposed by an increasing

number of British and American aircraft, especially on the most northerly and southerly fronts closest to the entry points for Allied supplies.[22] However, the Russian requirements altered as the initial shock of the German invasion subsided and Soviet industry recovered as it was transferred to the Urals-Volga-Siberia region. Thus during 1942 the Russians were able to produce 25,000 aircraft and as many tanks for themselves. (It might be noted that during that year America, gearing up its wartime economy, produced roughly the same number of tanks, but nearly double the quantity of aircraft[23]). Convoy PQ18, which sailed in September 1942, illustrates the shifting balance of the type of supplies despatched. Thus, greater emphasis was placed on high-calorie food packs, boots for soldiers and, especially, transport vehicles:

> On a rare visit to the front in mid-1944, General John R. Deane reported that he 'encountered American trucks everywhere,' and on the same tour General Sidney Spalding estimated that American trucks accounted for about half the automobile transportation he saw. . . . American vehicles contributed greatly to the 'new look' of the Red Army after Stalingrad . . . and a historian of the Russo-German war has added that lend-lease put the Red Army Infantry 'on wheels for the first time in its history.' Army officers candidly admitted to Harriman in the summer of 1944 that they could not have advanced so rapidly without American trucks.[24]

Indeed, as another researcher has observed that during the final Soviet advance into Germany:

> The main problem was not German resistance but their supply lines. Railroads had been smashed by retreating Germans, but also Poland had a different gauge of track from the Soviet Union. As a result, the movement of supplies depended on trucks, mostly American Studebakers . . . [so] the Red Army's advance would have taken far longer and the Western Allies might well have reached Berlin first.[25]

When considering the achievement of the convoys, it is too easy to focus on the front-line equipment provided to the Russians. However, the Russians were able to provide tanks and aircraft for themselves in greater quantities from 1942 onwards. Instead, it was the supply of second echelon and communications equipment that was most valuable. Thus, as noted above, the 200,000 Studebaker trucks formed the backbone of the Soviet motorised supply columns, and the 35,000 radio stations, 380,000 telephone exchanges and 247,000 telephones that transformed Soviet communications.[26] Moreover the effective supply, for example, of tanks was hindered by bureaucratic inertia which turned down '. . . all requests for our tank officers to be attached to a unit at the front equipped with British tanks . . .'.[27] British officers were attached to rear repair depots, but could not go forward to help the first Russian Churchill tank battalion overcome its teething troubles.

> The Royal Naval Section has always been better placed than either the Army or RAF Sections because the SNO, despite the existence of a Soviet Naval Liaison Department, is permitted to have direct contact with the Deputy Chief of the Soviet Naval Staff. The reason for this is that the Red Navy definitely recognises that it has everything to learn from the Royal Navy, and furthermore the senior officers of the Red Navy seem prepared to adopt a more independent attitude, and even boast that their relationship with the Mission is closer than that of the Red Army.[28]

This led to one of the unforeseen outcomes of the Arctic convoys, which was to exercise the Admiralty in the early post-war era. As a result of this relatively close liaison, many of the British and some American radar types, including some British 'Identification, Friend or Foe' (IFF) sets, had been supplied to the Russians, together with some operational training for their personnel in the UK. The Russians also had captured all the German radar types. 'The finer technique of the British use of radar [had] not, however, been revealed to the Russians.'[29] But the Russians had also been supplied with, amongst others, the latest Type 144 Asdic, though the fitting of these sonar sets fell foul of the Russian secrecy and perpetual overconfidence.[30] Anti-submarine training material had been sent to the USSR, and Russian personnel had been given training courses in the UK. Furthermore, the Russians:

> . . . had considerable opportunities of observing British convoy technique, and [the] British Naval control organisation. Their ships escorted British convoys on occasion in the Far North, but it was evident that the Russian staff never absorbed the lessons of convoy work, and it was improbable that they would be able to practice it efficiently at the outset of a future war.[31]

Understanding such limitations formed a vital part in the British assessment of Russian submarine and anti-submarine capability when, only a few years later, they became the main Cold War threat at sea.[32] But toward the end of the war British worries centred around the potential of the Germans to reinvigorate their U-boat campaign with large numbers of existing U-boats now fitted with the schnorkel, and a new generation of U-boats.[33] In 1944 intelligence reports suggested that a new Atlantic U-boat with underwater speed and long endurance was under development and might soon be deployed. These Type XXI U-boats were being made from prefabricated parts built all over Germany. The Commander-in-Chief, Western Approaches, Admiral Max Horton, saw that his task was:

> . . . to destroy as many as possible of the existing U-boats, thus preventing experienced officers and men from manning the new types. He also hoped to damp their enthusiasm by continually hammering at morale.[34]

During 1944–45, apart from the campaign in British coastal waters, the Arctic was the one operational theatre where U-boats could be engaged in relatively large numbers and at an advantage to anti-submarine forces.[35] Convoys to Russia '. . . were not run to provide this opportunity, but they were exploited for this purpose.'[36] Continuous aggressive, offensive operations against the U-boats, including those in the Arctic, were essential 'to keep their tails down' and diminish the effectiveness of a future enemy offensive. Furthermore, although not vocalised during the war, diminishing German experience with these new boats, meant that their knowledge would not migrate to the Russians when the high-speed Type XXI became the benchmark for the post-war anti-submarine threat.

The Arctic and Mediterranean Convoys – A Comparison[37]

When the original Mediterranean Convoy volume was issued, it contained a brief comparison between the Arctic and Mediterranean theatres, and this seems a good lead to follow before moving on to assess the overall achievement of the Arctic Convoys alone. In their original form, the two volumes covering the Arctic and Mediterranean convoys reinforced the message of the value of convoy in the face of determined attack from enemy air, surface and

submarine forces. They also focus on the year 1942, when the scale of attack on both Arctic and Mediterranean convoys reached its peak. This was the time when, 'On the face of things, no rational man . . . would have guessed at the eventual outcome of the war.'[38] The Arctic convoys:

> . . . were never critical to the British war effort, narrowly defined. They were suspended in periods of great danger, or great need elsewhere, notably for the Atlantic crisis of mid-1943 and 'Overlord'.[39]

Malta, on the other hand, played a more pivotal role in the maintenance of British control over the Middle East, especially once large tracts of the southern Mediterranean coastline were lost to the enemy and most of the heavy naval forces had been withdrawn to bolster the Far East. Even so, the frequency of convoys to Malta were barely adequate to secure its survival.

Perhaps the most obvious difference between the Arctic and Mediterranean convoys was the weather. The Mediterranean can be rough but, in general, it is quiescent. Sparkling sunny days and languid nights is certainly the impression of this region in most minds. The Arctic generates images of an altogether different character: cold and stormy conditions and for part of the year in perpetual darkness, which places an immense strain on crews. Some crews of Canadian escorts actually preferred the Arctic run because, in their view, the weather was no worse than in the North-West Atlantic and the run was shorter than with a slow trans-Atlantic trade convoy.[40] For example, Rear Admiral Desmond W. Piers, RCN, who commanded HMCS *Algonquin* when she did two Russian convoys in 1944–45, and who earlier commanded HMCS *Restigouche* in the Atlantic remembers that:

> The weather strangely enough was worse in the North Atlantic than it was in the Russian convoys. The Atlantic convoys would take anywhere . . . from 18 to 21 days to get across the Atlantic, and the weather would always seem to get worse. . . . The Russian convoy on the other hand was only a six day journey, fast and sometimes furious, but it was soon over.[41]

Moreover, in summer, the Arctic can be almost pleasant, though a hint of chill is always present. Fog was the main enemy, cloaking friend and foe alike, and in the days before efficient radar, making co-ordination of one's own operations hazardous and surprise attack by the enemy a constant fear. On clear days the problems were compounded by the constant daylight in summer. Apart from the climatic conditions, the enemy had other advantages. For example, convoys entering the Mediterranean from the west had to pass the Gibraltar Strait and were bound to be reported by enemy agents. Similarly, Arctic convoys returning from Murmansk sailed practically under the noses of German forces. As the First Lieutenant of HMS *Byron* noted in his orders for libertymen in North Russia at the end of an Arctic convoy:

> . . . we are less than 15 minutes from the German lines, [so] two Oerlikon gun's crews from [the] duty watch will man . . . [the] Oerlikons from dawn to dusk.[42]

In both Arctic and Mediterranean convoys, not only would the particular convoy be reported, but this would also alert the enemy to the likely sailing of the mirror at the other end of the Mediterranean or Arctic routes. Air reconnaissance could be laid on to detect it. By contrast, Atlantic convoys (apart from those to and from Gibraltar) were rarely reported

by air reconnaissance, partly because of the sheer area to be covered and the limits of *Luftwaffe* reconnaissance.[43]

The Arctic convoy route was about twice as long as that for the Mediterranean convoys. Both routes were constrained by geographic barriers – land in the Mediterranean and ice in the Arctic. There was far less room for the convoys to take evasive action, therefore, when compared with the vast Atlantic tract. The result was that most of the Arctic and Mediterranean convoys were attacked.[44] Not that, initially, the Germans were able to greatly affect the passage of convoys to Russia, in part because of the perpetual winter darkness which inhibited reconnaissance. As a result:

> Up to the early days of March 1942, only one merchant ship was lost out of 110 despatched; at the same time the deficiencies of Russian port capacity were a greater hindrance to the flow of supplies than were the German surface vessels, submarines and aircraft based on Norway.[45]

During 1942, when the scale of attack on both the Arctic and Mediterranean convoys reached its peak, 45% of the ships in Mediterranean convoys were sunk (with another 10% later sunk in Malta) and 25% forced to turn back. In the Arctic 29% were sunk and 11% turned back. These stark figures mask the overall achievement, at least in the Arctic, where about 93% of the ships sailed between 1941 and 1945 arrived safely at their destination. By contrast, in the Atlantic between 1941 and 1943 only 1-in-9 fast and 1-in-4 slow convoys were attacked, though of course the scale and continuity of the threat was much greater in the Atlantic. But, although there were some notable victories for the U-boats, the average convoy loss rate was 0.8%, rising to 1.4% during the critical years of 1942–43.[46]

In the Mediterranean the convoys were small, typically consisting of 6 to 10 fast ships capable of 13–15 knot. In the largest operation, 'Pedestal' the convoy contained 14 ships (with 2 more sailed from the east in operation 'Ascendant'). Arctic convoys were somewhat larger, averaging some 20 ships, with the largest convoy, JW58 in 1944, of 49 ships. In the Atlantic by 1944 convoys of 100 ships were running regularly, and reaching a peak with the 167-ship convoy HX300.[47] Perhaps the most striking similarity between the Arctic and Mediterranean convoys was that they both had to face multiple, and sometimes simultaneous, threats from air, surface and subsurface enemies. Of these threats, that from the air proved in both areas to be the single most deadly attack: the proportion of ships sunk by aircraft was 81% in the Mediterranean and 55% in the Arctic (where enemy aircraft had further to fly, in worse weather conditions, and without fighter protection). The effect from the other threats on the convoys in the two areas, however, was not the same. A third of the ships sunk in the Arctic were due to U-boat action, but submarines sank none in the Mediterranean convoys. Nearly a fifth of the sinkings in the Mediterranean were caused by motor torpedo boats but none of these craft operated in far northern waters. Mines also posed a constant threat in both theatres, though they caused relatively few casualties. During the period where these two Battle Summaries overlap, the losses in warships was heavier in the Mediterranean convoy operations, though a heavy toll was taken of anti-submarine escorts towards the end of the war in the Arctic when U-boats were able to counter attack with homing torpedoes.

Some of the supporting forces for the convoys in both the Arctic and Mediterranean were provided on loan from the Home Fleet, and the ability to switch escorts between the theatres illustrates, of course, the flexibility of sea power to support heavy operational commitments, even when resources were scarce. When the convoys covered in these volumes are viewed together, it highlights how intimately they were chronologically interwoven:

Theatre	Convoy	Date
Med	Operation 'Excess'	January 1941
Med	Operation 'Substance'	July 1941
Arctic	Convoys PQ1-12, QP1-8	August 1941–March 1942
Med	Operation 'Halberd'	September 1941
Arctic	Convoys PQ13, QP9	March 1942
Med	Operation 'MG1'	March 1942
Arctic	Convoys PQ14-16, QP10-12	April–May 1942
Med	Operations 'Harpoon' and 'Vigorous'	June 1942
Arctic	Convoys PQ17, QP13	June–July 1942
Med	Operation 'Pedestal'	August 1942
Arctic	Convoys PQ18, QP14-15	September–November 1942
Arctic	Convoys JW51A, JW51B-53, RA51-53	December 1942–February 1943
Arctic	Convoys JW54-66, RA54-67	November 1943–May 1945

It is the narrative of these operations that is set out in the two separate Staff Histories which form this published volume. These narratives, however, barely touch on what these convoys achieved in terms of deliveries of supplies and their effects in the operational theatres.

Continuing Relevance of the Naval Staff Histories

Following close on the heels of the *Arctic Convoys, 1941–1945*, the Admiralty issued in 1957, the *Selected Convoys (Mediterranean), 1941–1942* , also written by Pitcairn-Jones, and *The Defeat of the Enemy Attack on Shipping*, authored by Commander F. Barley and Lieutenant Commander D.W. Waters. The latter focussed mainly (but not exclusively) on the Atlantic U-boat campaign.[48] These three studies formed the basic analyses of the convoy actions during the Second World War. Of course, much has changed since then with great advances in technology and changes in the politico-strategic environment. Moreover, in the late 1980s, it was thought that convoys were practically worthless as a means of protecting shipping, because improvements in ocean surveillance systems meant that 'offensive' anti-submarine operations could be contemplated. Also, dispersion and deception were seen as the principal counters to both the submarine and aircraft capable of firing long-range missiles, for the enemy would then be less sure of identifying their principal targets. In any case, when an enemy launched an attack, it would be from outside a convoy's traditional defensive perimeter.[49] The *Arctic Convoys* and other Staff Histories, however, offer a different view when taken as a whole. Many of the wartime operations in the Arctic, the Mediterranean, and the Pacific were conducted in a multi-threat environment, in which convoy, supported by offensive operations, proved to be highly effective. For those contemplating a nuclear attack-at-source strategy launched from the Arctic and the protection of NATO's northern flank, these histories provided direct information of these operational areas.[50]

These ideas were used in tactical games at the Naval War College in the early post-war era and the Naval Staff officers saw and commented favourably on the histories. Valuable insights were provided by *Arctic Convoys* and a few examples may be given here. The volume showed that against surface attack, convoy could be effective with many successful defence operations counterbalancing the rather special circumstances of PQ17 when threatened by *Tirpitz*. The operations in the Arctic also proved indispensable in countering enemy air and submarine attacks, particularly when the convoys were given powerful fighter and anti-submarine air cover, and were supported by wide-ranging offensive operations

which struck at the enemy's forces in their bases or while approaching the convoys.[51] In the 1970s and 1980s, however, it became fashionable to diminish the value of convoy as a means of protecting shipping and to emphasise the primacy of offensive operations based on improved ocean surveillance systems. In any case, modern submarines and aircraft could strike with long-range missiles, without coming near to a convoy's traditional defensive perimeter. Moreover, it was thought that dispersion of shipping would make it more difficult for the enemy to identify their primary targets.[52] The illogicality of these ideas when the enemy possessed similar reconnaissance capabilities did not seem to strike home. However, when faced with strenuous air attack during the Falklands War, dispositions more akin to those in the Arctic convoys was evident, except for re-supply shipping which faced little threat.

Arctic Convoys also shows that these complex operations, like the Falklands War, could be mounted with ships drawn from other theatres. In 1942, HMS *Ashanti* was one of those ships and one of her officers was the future Chief of the Defence Staff, Admiral of the Fleet Lord Lewin. *Ashanti* participated in alternate Arctic and Mediterranean convoys.[53] These were experiences which profited Lewin for the rest of his career. Also the histories emphasised that courage and determination of both the military and merchant sailors, and the airmen were essential to fight through their convoys, more often than not against heavy odds. The history shows that aggressive action could reap benefits, and that high technology was not the only determinate of success. As an example of pure history, *Arctic Convoys* provides a fascinating and detailed account of important events during the Second World War at a level of detail and authority which is seldom accomplished elsewhere. Its value is enhanced when it is remembered that it was written by a professional historian of considerable naval experience, technical knowledge, and who had unrivalled access to the most sensitive primary sources (including Ultra material), as well as many of the individuals who took part in the events. Given that it was written 'in-house' *Arctic Convoys* is a surprisingly balanced treatment of what were, in some cases, controversial events. This, surely, is an example to be followed.

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2 The original can be found in the National Archive at the Public Record Office (hereafter PRO): 'Arctic Convoys, 1941–45, Battle Summary No. 22,' 1954, PRO ADM 234/369, and in both the Naval Historical Branch and Admiralty Library.
3 Foreword to 'Arctic Convoys, 1941–45, Battle Summary No. 22,' 1954, PRO ADM 234/369.
4 Winston S. Churchill, *The Second World War*, Vol. 3: *The Grand Alliance* (London: The Reprint Society, 1950–1956), p. 318.
5 It should not be forgotten that Australia and especially Canada also provided supplies.
6 W.K. Hancock and M.M. Gowing, *British War Economy* (London: HMSO, 1949), p. 359.
7 Michael Custance, Ministry of Transport to G.H. Hurford, TSD/HS, 6 September 1950, in 'Publication of portions of C-in-C, Home Fleet's despatch relating to Russian Convoys, 1942,' in 'Arctic Convoys, 1941–1945, Naval Staff History, Battle Summary, No. 22,' Folder, NHB.
8 *ibid.*
9 'Operation "Neptune" Landings in Normandy, June 1944,' Battle Summary No. 39 (London: HMSO, 1994), Appendix H(3).