The British Involvement

In The

Second World War

The Royal Air Force
The Royal Navy
The British Army

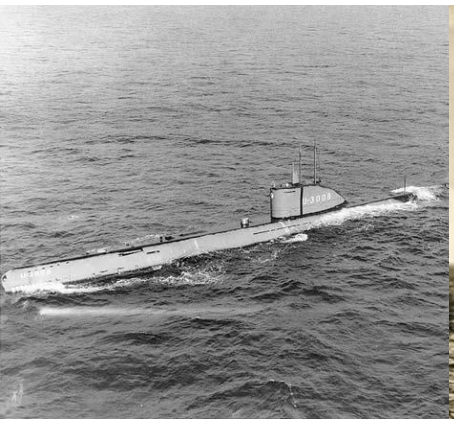
Harry Woolston

CONTENTS:

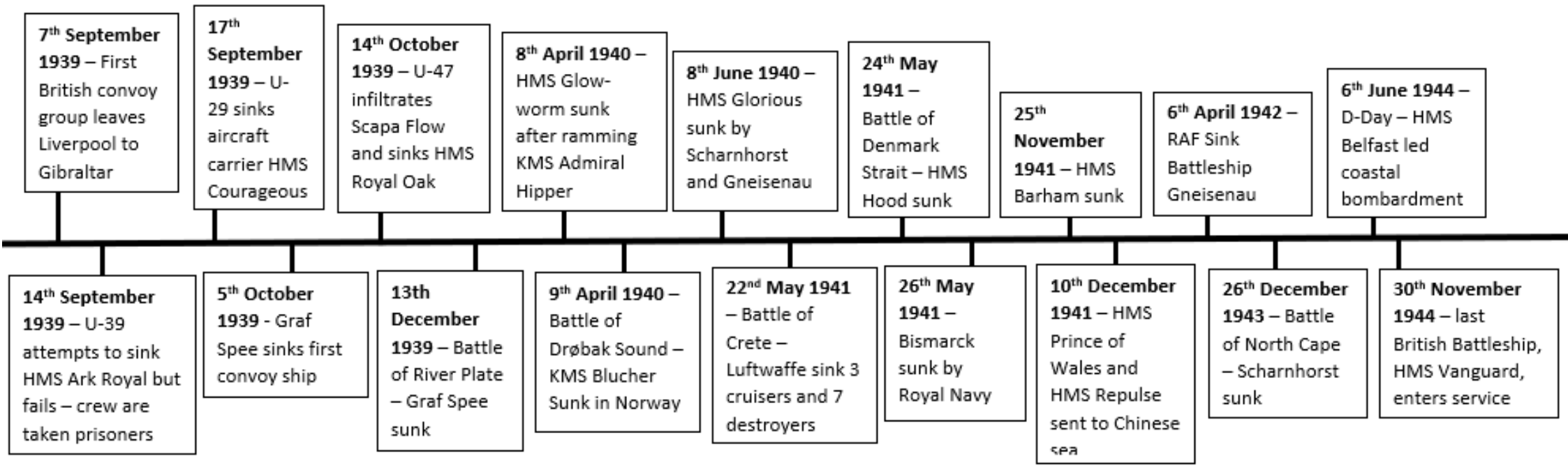


British Involvement in the Second World War –

Part 1: the Royal Navy and the Battle of the Atlantic



Timeline of major events during the Battle of the Atlantic:



Introduction:

There is undoubted statistics that prove the importance of the 'Battle of the Atlantic'. It was through Sir Winston Churchill that the 6-year long operation gained its status of importance, where in June 1940, he stated *"Without Victory there is no survival"* (Boler, 2015) and on the 6th March 1941, announced to the House of Commons *"we must assume that the Battle of the Atlantic has begun"* (Churchill, Was Churchill really worried about the Battle of the Atlantic? And if so, why?, 1941) This speech was in direct alliance to the speech he issued in June 1940: *"the Battle of Britain is about to begin"* (Churchill, Their Finest Hour, 1940) which demonstrated the importance of the Royal Air Force during one of the most pivotal moments in the World War Two. This reference to an exceedingly prominent and well-publicised event allowed the Royal Navy to be recognised for their importance in the war effort, which would see further manifestation following May 1941.

Chapter One: British Convoy efforts

The Battle of the Atlantic is exclaimed to have begun as a subsequent declaration of war on the 3rd September 1939, however its prominence wouldn't be recognised until mid-1940 where British and American shipping trades would reach a new intensity up until the official entrance of the United States into the war on the 7th December 1941. Convoy shipping would become the primary aspect of the Battle of the Atlantic; a defining moment for the British and Canadian Royal Navy as well as the US Navy and remain a vital aspect of warfare operations during the Second World War. The principle of a convoy between America, Canada and Britain consisted of an average of 60 different merchant ships which would transport necessary military equipment, food and other primary resources required for the function of a nation during war. Between 1939 and 1942, the failure of the allies to realise the danger of U-boat forces in the Atlantic waters, the inability for allied ships to recognise these signals and the absence of appropriate warships that were able to support these convoys meant they were in a particular state of crisis.

Figure 1 - U-755

Figure 2 – German U-boat 'U-108' Nov. 1941

Initially, the Battle of the Atlantic would operate in the ally's favour. A suitable Anglo-Franco union between Great Britain and France between September 1939 and March 1940 meant that German U-Boat forces had limited range as they remained stationed in North-German ports. However, by the time Germany had managed to invade the lowlands countries such as Belgium, the Netherlands and later France by June 1940, the Atlantic theatre efforts switched to support Germany. Initially, Britain managed to increase trade routes to Canada across the Atlantic, yet this was severely damaged following the Battle of Drøbak Sound and the Evacuation of Dunkirk which both arguably demonstrated the end of the Phoney war and the start of physical conflict in Western Europe in April to May 1940. By the time Germany had fully contested France in June the same year, they were now able to station most of their U-Boat forces in former French ports along the west coast. This now

increased the range of the German submarine forces and now forced Great Britain, as the only nation left in the war in Europe, to reinforce their convoy shipping.

Initially, convoy shipping did not necessarily need much cover from British warships as the German submarines were not often able to reach far into the Atlantic. Whilst they would have minor cover from small armed warships as they travelled from the River Thames and through the English Channel, they would often come under fire from German artillery positions placed along the French coastline, although this was extremely ineffective against convoy shipping and had almost zero success rate at sinking British convoys and warships. By the time German U-Boats were placed along the west coast of France and increased their range, British convoy groups had been redesigned. This included grouping merchant ships into groups which would often reach a total of up to 60 ships, in columns of five, supported by heavier armed warships, typically Destroyers and Cruisers. In some cases, trade between Canada and Britain would consist of war supplies and munitions which would eventually be escorted by larger heavy cruisers and battleships. At the start of the war, groups would often leave from the River Thames and River Mersey. This consequently meant that the design of convoy groups that were travelling between Britain and Canada were very small, and often dispersed by the time they were out of the range of Germany U-boat forces and at the end of the English Channel. Often, they were only escorted by light warcraft whilst Cruisers and Battleships were reserved for larger U-boat forces or encounters with larger German naval warcraft.

Figure 3 - Blairspey

Figure 4 - HMS Samphire, Flower-Class Corvette

Whilst the Thames and Mersey rivers were the key starting points for naval convoys, they were often also originating from most naval ports across the United Kingdom, although predominantly launched from the West coast. This was more of a strategic positioning in terms of German ranges at the start of the war, rather than supplies of munition and food supplies in those regions. For example, during the Summer of 1940 in the lead up to the Battle of Britain and throughout the Blitz (September 1940 – May 1941), ports on the west coast of England were out of range of most German fighter aircraft such as the Messerschmitt Bf-109E. This therefore meant that if German Heinkel He-111 and Junkers Ju-88 bombers had been left to target western ports on their own, they would be left subject to allied fighter intercepts and therefore an increased likelihood of being shot down by RAF fighters. They were therefore left with the primary option to raid these areas under the cover of darkness, as they had been doing to civilian areas in London and other South-Eastern urban areas. As a result of the darkness as well as smaller targets such as single convoy boats, it meant the accuracy of these raids were especially poor and therefore the British-Canadian convoy groups were often left unharmed by Luftwaffe raids. This can also be demonstrated statistically based on information gathered in relation to the number of tons of shipping launched from different West-England and North-Scotland ports (areas deemed the highest ‘competition’ against Western ports). Overall, a total of 12.9 million tons of trade was handled by UK ports during the War (1939-1945). However, broken down, convoy ports had been strategically chosen from their geographical location. Liverpool

and Manchester handled 34% of the UK trade, which was around 4.2 million tons. This is compared to 14.8% of the UK trade in handled in Scotland's Glasgow and Greenock which accounted for 1.8 million tons. Only 0.8 million tons was handled in Cardiff, Swansea and Newport as well as Bristol (Behrens, 1955).

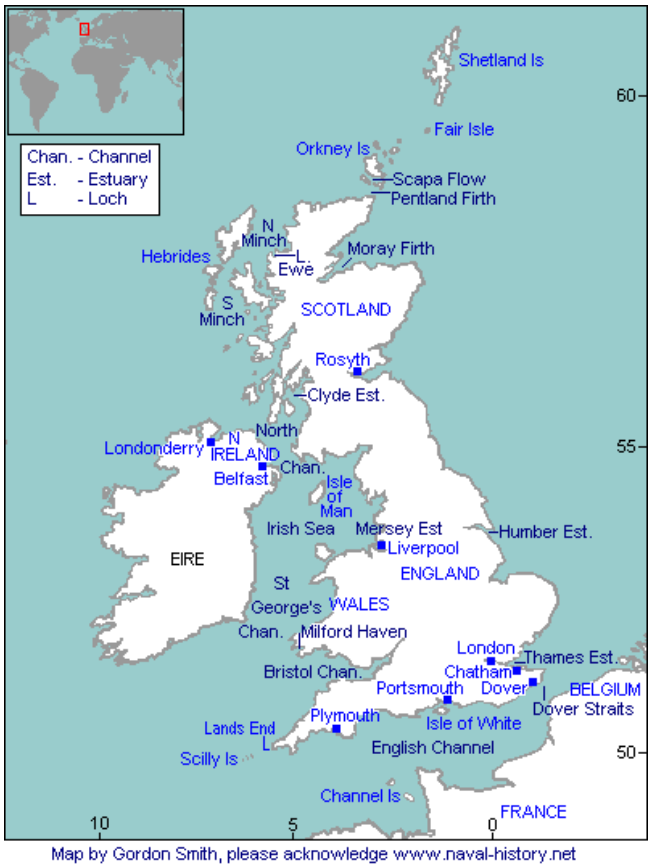


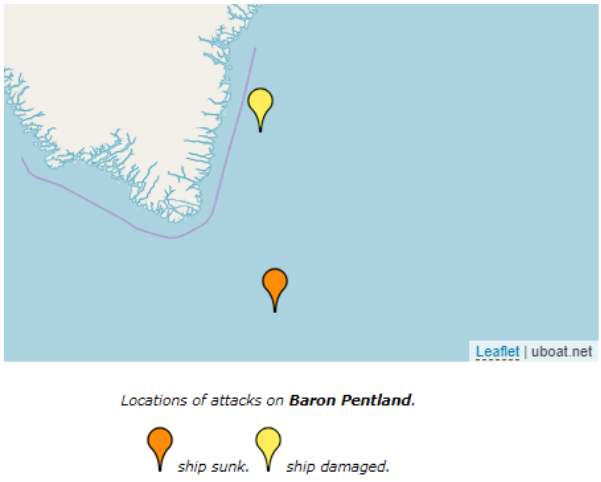
Figure 5 - map of Royal Navy bases

Following the German invasion of the Soviet Union in June 1941 during Operation Barbarossa, British supplies would now also need to be increased to allow for trade to the USSR, and by December the same year, would see a further rise in munition trade between Britain and the United States. This would lead to the *'Arctic convoys'* which would be the most feral, perilous and uncomfortable environment any naval assets would be forced to endure. Arctic convoys would also see a development in their warship support – a significant increase in the number of cruisers and battleships that escorted these larger convoys to the USSR. This was due to several different reasons, particularly due to the close proximity that the naval convoys would reach to occupied areas of North Europe, specifically Norway, the Netherlands and Denmark. This ability for the U-boat forces to be restationed in areas that were closer to England, close to the Atlantic and North Atlantic Ocean as well as positioning in areas that they now explicitly controlled now meant they were in an efficient range to be able to target and sink British and American convoys. Some of the most perilous and ruthless journey through the Artic waters gave way to extreme illness, disease and some of the most deficient living conditions on board both warships and the merchant ships.

For example, the figure below demonstrates some of the conditions seen on board HMS Belfast during Artic convoy escorts, 1943-1944:

Figure 6 - Crew of HMS Belfast, Arctic Convoys, 1943

By following the operation of one British convoy ship during the Second World War provides an example of the sort of routes that were being made between different allied countries. British Steam Merchant *Baron Pentland* was a British convoy ship originally built in 1927 and weighing 3,410 tons (Cooper, c.2000). Its fate would eventually end up sunk in 1941 by a German U-Boat attack, an outcome that was all too common to Merchant ships up until 1942. *Baron Pentland* took part in 3 major notable convoy groups: HX14 in 1939, HX61 in 1940 and SC42 in 1941. Overall, it covered in 73 merchant trade routes which connected imperative merchant stations such as London, Liverpool, Middlesbrough, Gibraltar, Philadelphia, Glasgow, Sydney and Sfax. It particularly transported resources such as timber and steel across a variety of different countries which allowed for constant resource supplies to areas that required them most. During its merchant travels as part of convoy groups *'HX14*' and *'HX61'* in 1939 and 1940, She travelled both instances to Halifax and carried Timber wood and Steel respectively (Cooper, c.2000). Upon arrival to Greenock on 27th November 1940, she collided with ships *Madura* and *Corundum* whilst entering River Clyde. After repairs a year later, she noticed a steering defect upon arrival to Oban on the 4th April 1941 which were initially repaired. However, its fatal trip would fall upon her when travelling as part of convoy group SC42 on the 30th August 1941. She became a straggler to the group, originally in the No.11 position of the group whilst en-route to Hartlepool carrying more timber reserves from Sydney. She was originally damaged by *U*-652 on the 10th September 1941, but on the 19th September 1941, *Baron Pentland* was attacked and sunk by German U-boat *U-372*, commanded by Heinz-Joachim Neumann. Out of the 41 crew on board the ship at the time, 2 would be killed and 39 would survive (Helgason, 1995-2021).



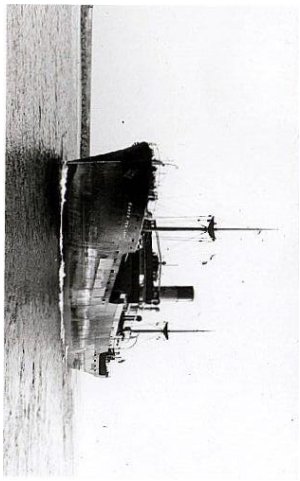


Figure 7 - Location of sinking Baron Pentland, 1941 *Figure 8 - Baron Pentland* *Figure 9 - U-Boat Type VIIC*

In total, by 1939, over a third of the worlds merchant sailors were British with a workforce numbering over 200,000 with input received from merchant sailors from across the British Empire at the time. By the end of the Second World War 6 and a half years later, 4,700 Brits-flagged merchant ships had been sunk and destroyed with a loss of more than 29,000 merchant sailors (IWM, A Short History Of The Merchant Navy, 2021)

Chapter Two: British Warships in the Atlantic

Whilst merchant shipping 'Ruled the waves' of the north Atlantic and the cold and treacherous waters in the Artic in terms of numerical statistics, it was the regular Royal Navy who were responsible for the protection of both these convoy ships as well as the rest of the United Kingdom. The importance of their involvement in the Second World War is arguably unspoken; a large

proportion of World War Two was fought primarily by the Royal Navy, and their victories that were won and losses sustained at sea go unheard of. The force of the Royal Navy was unprecedented. Arguably the greatest Navy in the world and peaking between 1914 and 1945. It was formed of a far-reaching variety of Destroyers, both light and heavy cruisers and most famously, Battleships. The extent of the Royal Navy's power in 1939 was not unfamiliar to Hitler, who was alto aware of the threat the force would play in a variety of different wartime circumstances, especially for the aims Hitler had laid out. This included the invasion and capture of the Soviet Union, the invasion of the Great Britain and its Empire and the removal of the United States as a threat to their war efforts. Hitler knew that if the Royal Navy remained at the peak of modern naval power, then they would allow the Soviet Union to remain supplied with a variety of different wartime essentials, and the United States would be able to supply the United Kingdom with the extra support needed to boost British wartime power and influence to its peak. British maritime aircraft, Battleships and heavy cruisers would maintain the British 'armour' front whilst Destroyers and other light coastal craft would prepare to stabilise the backbone of the formidable naval force.

During the Second World War, there were approximately 35 different Destroyer class ships available to the Royal Navy, with origin dates ranging from 1917 to 1945 (Encyclopedia, 2021). During the Dunkirk Evacuation and throughout the war, particularly carrying the role of convoy escorts or Flotilla group leads, Royal Naval destroyers played one of the most major roles during the naval operations in the Atlantic frontier. During Operation Dynamo from 26th May to 4th June 1940, the Royal Navy used 39 destroyers to evacuate BEF soldiers back to the safety of the United Kingdom across the English Channel. A further set of 38 minesweepers and 61 other minesweeping craft were used as well as 18 anti-submarine trawlers, six, corvettes and 79 other smaller light craft (totalled together with other smaller ships operated by civilians) (Quinn, Miracles and myths: The Dunkirk Evacuation – Part 2: The heroism of the Royal Navy, 2020) with a loss of 9 of these destroyers and a further 19 damaged, although these were repaired to operational standard and reserviced into the Navy. In total, the Royal Navy serviced 184 destroyers.

Figure 10 - Tribal Class Destroyer 'C43'

Figure 11 – J Class Destroyer 'F22'

Second to the important role of destroyers during the Second World War were Cruisers. Different scales of British cruisers were labelled as 'light' or 'heavy' which were all armed with a variety of different gun sizes, amount of armour protection and particularly torpedo armour (which was lacking on destroyers). Cruisers initially played a very similar role to the role of destroyers during World War Two, carrying out convoy escort roles or safeguarding the southern coast of England during the Battle of France and the Battle of Britain. Whilst cruisers were not utilised during the fall of Dunkirk and Operation Dynamo to the same extent as destroyers, particularly due to their size compared to the threat posed by aerial bombardments of Luftwaffe aircraft attacking the coast, they were an extremely paramount asset to the Royal Navy by 1941, outlining their importance

particularly during the Hunt for the Bismarck in May 1941 *(see chapter 4: the Battle of Denmark Strait).* During the Siege of Calais and Fall of Dunkirk, the Royal Navy used only one cruiser, which was lost on the 27th May 1940. However, most British Cruisers were used to support other heavy cruisers and Battleships, most particularly British and American Convoys after mid-1941. In total, 63 Cruisers were in service with the Royal Navy between 1939 and 1945 broken down into around 18 different classes with a variety of different gun sizes and armour thickness.

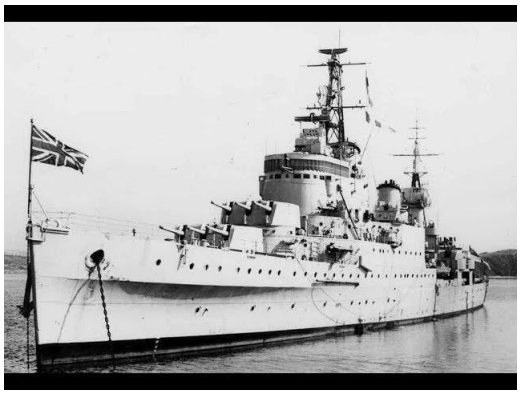


Figure 12 - County-Class cruiser

Arguably the most famous warships of the Second World War were derived from Battleships and Battlecruisers; hybrid forms of Battleships and heavy cruisers. The designs of battleships have varied across the last 200 years. The HMS Mary Rose, pride of the Royal Navy for Henry VIII in the early 1540's was the first warships that would carry a design similar to that of the battleships of the 20th Century. Initially, the Mary Rose was recognised as *'Carrack-Type'* warship which was made of wood and powered by wind and sail; by the time the industrial revolution took place in England during the early 19th Century, most warships would be converted to either a mix of steam and sail or simply just steam. As the need for wind powered ships dissipated, new designs of warships were being drafted. Similar to the Mary Rose, they would become some of the largest warships known to man, and the Royal Navy boasted its pride when it announced the construction of the Dreadnaught Battleship in 1914. By the end of the First World War, battleships had already changed designs slightly to become larger and equipped with heavier armour. One of the most famous British warships ever built was HMS Hood, entering service in 1920. It would meet a tragic end during the Battle of Denmark Strait in 1941. Even by 1935, battleships had grown even further in advancements to keep up with interwar standards and meet the threats being made by the enemy of the time: the Kriegsmarine of the German Third Reich. For example, the new King George V class, led by HMS King George V was armed with ten 14-inch cannons in a new turret design: two turrets armed in groups of four, with one last turret on the bow in a figure of two barrels. Battleships would demonstrate their value during both World Wars, particularly in the Battle of Jutland in 1916 and many operations in the Atlantic front in 1941 to 1943 and even spreading across to the Pacific theatre in 1945. In total, the Royal Navy was equipped with 15 battleships split between five different classes.

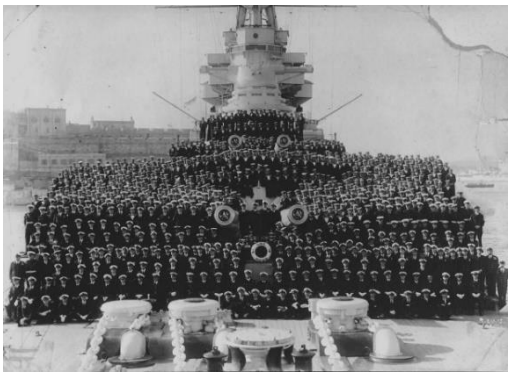


Figure 13 - crew of HMS Hood

figure 14 – HMS Rodney leaving Liverpool

Another imperative force needed for modern naval forces of the mid-20th century were Aircraft carriers. Whilst they carry out almost identical operations today however in modern circumstances with significantly greater technology, aircraft carriers would play a significantly important role during

the Second World War. Flight was a relative new form of warfare during the First World War, but the world first aircraft carrier became operational in 1914. Although designed from the hull of a merchant ship, its capabilities demonstrated a new key aspect of the advances being made in modern warfare technology. By the time the Second World War began however, aircraft had made significant advances. In 1935, the Royal Air Force saw the entrance of aircraft with a new monoplane design, which was a revolutionary design and saw the gradual removal of biplanes from service. As aircraft designs became more advanced, so did operations on aircraft carriers. The Royal Air Force and the Royal Naval Fleet Air Arm worked closely together to create a unified force that was capable of being operationally deployed across the world, and a force that would counter that which was being developed by the Third Reich. At the outbreak of war in September 1939, the Royal Navy had 13 classes of aircraft carriers (divided between main aircraft carriers and support carriers) and a total of 14 aircraft carriers operational between 1939 and 1945.

Figure 15 - HMS Argus, colorized by Hirootoko JR

Figure 16 - HMS Indomitable, colorized by Hirootoko JR

<u>Chapter Three: The Battle of River Plate</u>

Originally sent out to the Atlantic with official orders for operations in the South Atlantic for 1939 to 1940, the German *'Pocket* Battleship' Admiral Graf Spee found itself under attack and scuttled less than four months into operation. The Battle of the River Plate was the name of the encounter made between Admiral Graf Spee and a force of British and New Zealand naval forces. It was the build-up following the loss of the first British convoy ships by the Graf Spee in the South Atlantic. Not only was the Battle of the River Plate extremely vanquishing for the Royal Navy itself, but also a major encounter for the Royal New Zealand Navy – as HMS Achilles fired the first 6-inch shells of the battle, it was also noted as the first shots fired for New Zealand in the war. As a result of the first fired shells by **HMNZS** Achilles at 0621 on the 13th December 1939, the Battle of the River Plate commenced. The overall conflicting encounter lasted 82 minutes and would eventually claim the lives of a total of 72 allied fatalities compared to 32 lost from the Graf Spee (History, 2022). The current circumstances for Great Britain in 1939 was facing a lack of military engagements in all three sectors of the armed forces in a period known as the *'Phoney War'*. The Phoney War became exceedingly depressing for British and other allied nations; however, this encounter was a major victory for Britain, and a more than welcomed morale boost for British civilians.

The German Admiral Graf Spee was sent out on operations initially on the 21st August 1939 along with KMS Deutschland, only 10 days before the German invasion of Poland and the start of the Second World War. Germany was fully aware of the threat the Royal Navy would pose to the German Kriegsmarine and eventually other European operations should their invasion of mainland Europe be successful in 1939 and 1940; therefore, ensuring secure supply routes and a dissipated

supply route to Great Britain to starve them out of the war would be vital. Overall, the initial operation launch of the Graf Spee and Deutschland would mark the start of the Battle of the Atlantic for Germany, and this would be challenged by the Royal Navy 10 days later.

The challengers to the Graf Spee in December 1939 were the British South American division made up of four cruisers including HMS Exeter, HMS Ajax, HMNZS Achilles and HMS Cumberland and the South American group was commanded by Commodore Harwood. By November 1939, Intelligence reported to Commodore Harwood made him aware of the Graf Spee's presence in the South Atlantic however vital information including her direct position was lacking by the 15th November. Harwood was familiar with two major supply routes between the Americas and Great Britain including the Argentinian and Brazilian trade routes which would be the most likely targets for attack by the Graf Spee threat. One notable historical approach for Harwood to reason the Graf Spee was also likely to attack these shipping routes in December 1939 was due to the anniversary of the British victory over Germany at the Battle of the Falklands Islands: A First World War encounter between the German Navy and the Royal Navy in December 1914 (Trueman, The Battle Of The River Plate, 2015). The positioning of the Graf Spee's attack was also forged through locational context of surrounding countries – in the South Atlantic, there were three major neutral nations which would offer potential cover for the Graf Spee; according to internal naval law, a ship involved in a conflict can claim cover in a neutral countries port for a maximum of 24 hours before being forced to leave. This would offer possible harbour facilities should the Graf Spee require it.

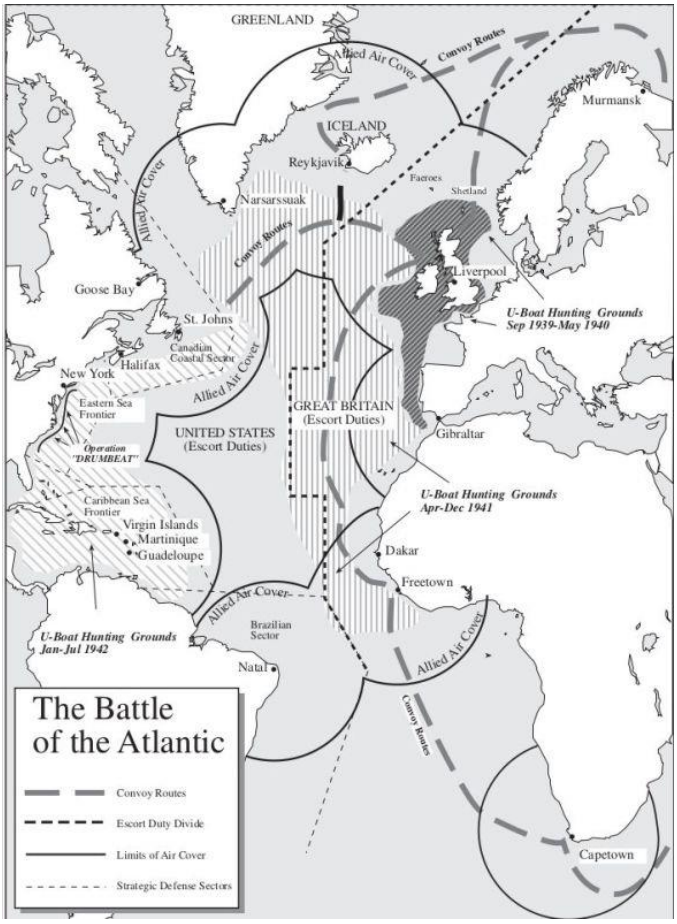


Figure 17 - Map of Atlantic trade routes

Commander of the unit, Harwood, had been notified on the 2nd and 3rd of December 1939 that two British merchant ships, 'Doric Star' and 'Tairoa' had been attacked off the coast of St. Helena (Trueman, The Battle Of The River Plate, 2015). Not only was this a clear representation that the Graf Spee was in the vicinity, but it was also a warning sign to the rest of Great Britain that Germany was prepared to disrupt all trade routes between Britain and their allies or other trading countries, which meant securing the Atlantic waters. Harwoods skill and accuracy was met with luck. His naval knowledge of the German Kriegsmarine assisted him greatly. He estimated that the Graf Spee was travelling at a speed of 15 knots and hour, and therefore used intelligence gathered about the Graf Spee's last known position and distance travelled between the two attacks on the Doric Star and Tairoa to work out a rough position the Graf Spee could be. Whilst the Graf Spee could usually travel at a speed of 22 knots an hour, it had been forced to reduce its speed to 15 knots due to damage done in the encounter with the merchant shipping. Luck supported Harwood, and his position was accurate (Trueman, The Battle Of The River

Plate, 2015). His decision was now based on where to place his force of four cruisers. Splitting up the force would not be a supported decision with the rest of his crew, and he himself was aware that there was a significant threat posed with positioning two cruisers at two optional positions and ran the risk of losing two ships. His last decision was to place the four cruisers at the mouth of the River Plate, between Uruguay and Argentina. Even whilst deciding the positioning of his fleet, he was assuming the Graf Spee was planning on remaining in the South.

In terms of forces available to engage the Graf Spee, numerical forces were in favour of the British – four cruisers against one heavy cruiser seemed to be a reasonable force capable of sinking the enemy. However, what must be considered greatly is the modernisation of the Kriegsmarine. Substantial figures of ships in operation with the Royal Navy were becoming increasingly outdated against the enemy. The Graf Spee was first commissioned into the German force in 1936. Out of the British forces available to encounter the Graf Spee, HMS Cumberland was commissioned in 1926, HMS Exeter in 1929, HMS Achilles in 1932 and HMS Ajax in 1934. Not only the date of commission of all British forces in the naval squadron located in South Americas being slightly earlier than the Graf Spee, but the weaponry physically placed on the ships were also greatly smaller. The Graf Spee was fittingly nicknamed *'Pocket Battleship'* since she was armed with six 11-inch battleship guns – that which was also on the KMS Gneisenau and Scharnhorst. Not only that, but she was also equipped with heavy amounts of anti-aircraft artillery as well as a total of six 21-inch torpedoes. *(see **'ship specifications'** for full information).* British ships in the South Atlantic were armed with 6-inch cannons and HMS Exeter with 8-inch guns. Whilst they were all smaller and faster, they were armed with less artillery and smaller side armour protection.

It was not the first intent for Harwood to have his forces engage the Graf Spee. He was alto aware that the Graf Spee had just as good odds to sink at least one of the British ships – a sacrifice the British Commander simply couldn't afford. His final plan was to maintain distance from the Graf Spee but trail her and utilise the speed efficiency of the British cruisers until larger and heavier British reinforcements could support the cruisers.

By the 13th December 1939, British cruisers had been positioned in the mouth of the River Plate, prepared for the Graf Spees arrival following British intelligence encountering information that the Graf Spee had been ordered to attack British merchant shipping between Argentina and Britain. Harwood was now fully prepared to attack the Graf Spee to prevent the sinking of the Merchant shipping and therefore ordered HMS Exeter, Ajax and Achilles to engage the Graf Spee should it come into contact first, whether it "be by day of night" (Trueman, The Battle Of The River Plate, 2015).

The Graf Spee was the first ship to spot tall masts off the horizon at 0552 on the 13th December 1939. By 0600, Commander of the Graf Spee, Admiral Langsdorff identified the British heavy cruiser HMS Exeter – the ship he was most fearful of and the only ship he believed could pose any real threat against his pocket battleship. He was aware that the British group, 'Force G', was familiar of Graf Spees position in the South Atlantic and decided that targeting and sinking HMS Exeter was the best option should he want to continue operations in the Atlantic. However, Langsdorff made one error. His order to place the ship into a state of battle-ready included pushing the ships engines further, subsequently causing a large plume of smoke to bellow out of the funnel making the Graf Spee ideally visible to the British unit. At the time, Langsdorff was unaware of multiple ships being stationed with Exeter, but now aware that he had been spotted, Graf Spee opened fire at a range of 9 nautical miles, on HMS Exeter scoring a direct hit as he soon discovered the two supporting British light cruisers. The scoring hit caused significant damage to Exeter's midsection, killing all crew except from three remaining officers. Commander of Exeter, Captain Bell, ordered all operational turrets to

open fire on the Graf Spee and one salvo scored a direct hit on Graf Spees 'B' turret (Trueman, The Battle Of The River Plate, 2015).

In an attempt to divert the fire of the Graf Spee, HMS Achilles and HMS Ajax engaged the Graf Spee from alternate positions, overwhelming the German ship (BazBattles, The Battle of the River Plate 1939, 2021). Whilst the Graf Spee continued to target HMS Exeter, shells launched from Ajax and Achilles rained over the pocket battleship and caused significant damage to the ship's superstructure. Two of her three operational turrets had been hit and caused major fires on board the ship and severed communications to the other allied cruisers. Graf Spee was forced to take alternative action to avoid the now approaching light cruisers, and turn hard port to target HMS Ajax and HMS Achilles, who posed a significant torpedo attack threat against the ship. HMS Exeter launched three 21-inch torpedoes at 0631, missing the Graf Spee just as Langsdorff ordered Graf Spee to turn south away from the attacking Ajax and Achilles. Graf Spee scored a direct hit on the Exeter's electrical stores, causing complete electrical failure on the ship, forcing Exeter out of the engagement even though her engines were still functional, and the Graf Spee turned its rear turret to the attacking light cruisers. As HMS Exeter attempted to re-join the battle, firing salvos from her last operational turret, Graf Spee returned its attention to the heavy cruisers threat, disabling her last turret and forcing a severe list to the left. HMS Ajax had received minimal damage by the large primary weapons of the Graf Spee, and Achilles had suffered minimal damage, only being targeted by the Graf Spee's secondary weaponry. The two British cruisers utilised their speed efficiency to close in on the Graf Spee, although left the Graf Spee as she headed East for Montevideo port.

Graf Spee arrived at the Port, and Commander Langsdorff deemed the ship no longer operational for the Atlantic waters, and she was ordered to be scuttled at port after remaining at Montevideo for almost three days. The outcome of the battle was a significant victory for the United Kingdom, however for the crew and ship itself on HMS Exeter, it was grieved. Graf Spee suffered a total of 37 men killed and a further 57 wounded from a crew force of 1,100 men. Harwood ordered her to return to the port at the Falklands Island (Trueman, The Battle Of The River Plate, 2015). In all, both sides lost a total of 109 lives.

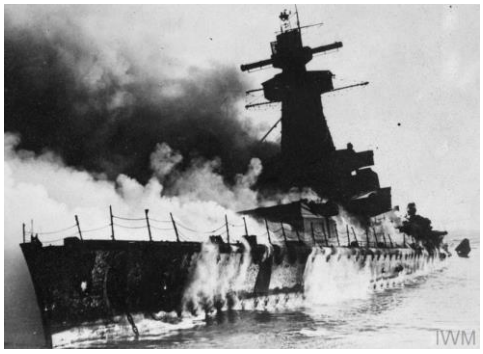


Figure 18 - Graf Spee after being scuttled, 1939 (IWM)

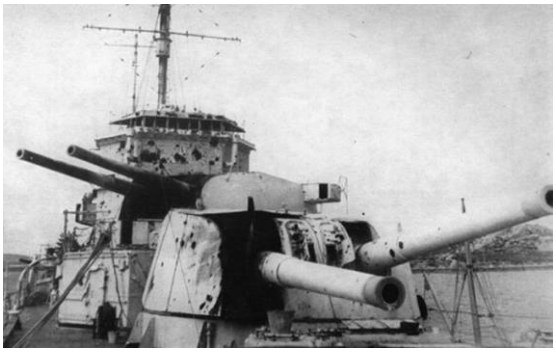


Figure 19 – the damaged HMS Exeter

Chapter Four: Part 1: The Battle of Denmark Strait

The Battle of Denmark Strait is arguably the most famous naval encounter of British military history of the Second World War. Following the Battle of Britain and the failure of the Luftwaffe to push the Royal Air Force out of action in the Summer of 1940 and gain air superiority over the Southeast of England, Hitler was fully aware that a seaborne invasion of England would not be feasible and therefore turned to challenge the might of the Royal Navy in the Atlantic. Already having lost one of its major naval warships, Admiral Graf Spee, in the Winter of 1939, Hitler had now been familiarised

with the power of Great Britain and had been demonstrated that he would have to try push Britain into surrender by other means other than complete military destruction. Hitler used common sense to analyse his next approach to the destruction of the United Kingdom. Being an Island nation meant the UK relied heavily on imported goods, which he had been attempting to vanquish since the start of the War in September 1939. Thousands of British merchant ships crossed the Atlantic waters from the Americas and other areas across the world, primarily all major nations in the British Empire which would all help keep the British economy running, and either directly or indirectly supported the war effort in Britain. This was his new attempt to starve the British public and force the government into surrender, thus allowing Hitler to station his forces in England (BazBattles, Bismarck: Battle of the Denmark Strait 1941, 2018).

Grand Admiral Erich Raeder, the commander of the German Kriegsmarine, was thoroughly impressed with the success of the previous German convoy interception carried out by the Battleships Scharnhorst and Gneisenau, and now turned to once more repeat the raid in what was code named, *'Operation Rheinübung'* (BazBattles, Bismarck: Battle of the Denmark Strait 1941, 2018). He deemed that using German Capital ships was the most preferable option for convoy interceptions, however Battleships Scharnhorst and Gneisenau were now under maintenance after the previous convoy duty, and the new Tirpitz battleship still under crew training, only leaving the pride of the Kriegsmarine, Battleships Bismarck. Raeder was sceptical about sending one battleship into operation, and therefore alternatively decided to send the heavy cruiser, Prinz Eugen, an Admiral Hipper class ship, to escort and support the Bismarck. Raeder also required the capital ships to begin operation as soon as possible to avoid budget cuts that were being planned against the Kriegsmarine as Hitler began to prepare for the invasion of the Soviet Union for summer 1941.

Figure 20 – 'GA' Erich Raeder

Figure 21 – Admiral Lütjens

Figure 22 – Scharnhorst and Gneisenau

However, whilst was a 'secret' operation, it was soon discovered by Britain. Their battlegroups movement was revealed by a British Spitfire reconnaissance aircraft whilst refuelling at Bergen in Norway. Although Admiral Lütjens feared British action against the Bismarck and Prinz Eugen, German aircraft reconnaissance returned information that stated British capital ships remained stationed at the Port of Scapa Flow in Scotland. Now travelling along the Ice-ring of Greenland, the Bismarck was soon spotted by the British heavy cruiser, HMS Suffolk. HMS Suffolk had recently been equipped with a new radar, and Suffolk reported the sighting of the Bismarck to surrounding British ships, and most importantly, the base at Scapa Flow. Less than an hour after HMS Suffolk had been sighted, did a second heavy cruiser, HMS Norfolk also appear off the East. HMS Norfolk received five salvos from the Bismarck, although no hits were scored, and HMS Norfolk retreated. In the morning of the 24th May 1941, Prinz Eugen Hydrophone detected heavy superstructures of two British heavy ships, formed of HMS Hood and HMS Prince of Wales, commanded by Vice-Admiral Holland. Holland approached the two opposing German ships from a vicious angle, directly North-West, and bow on

against the broadside Bismarck and Prinz Eugen. This strategical maneuverer lay in the characteristics of the Hoods armour. At the time of the first encounter, the ships appeared evenly matched. Gun size was even larger for the British, which on paper meant the British should have a greater chance of success against the German ships with smaller weaponry and the Bismarck's already faulty radar *(see **'ship specifications'** for full information).*

Although prepared with a thick layer of main side belt armour, HMS Hood had little deck protection meaning the downfall of shells against Hood from a long distance had the possibility to plunge through the main deck and into ammunition stores. The HMS Prince of Wales was also in support of this decision, as she was designed with six of her ten main batteries at the front in a new and modern four-barrel turret. In the early hours of the 24th May 1941, the British ships opened fire against the German capital ships, although a simple error is perhaps the cause for the tragic end of the HMS Hood. HMS Prince of Wales correctly identified the greater threat of the Bismarck, trailing behind the Prinz Eugen and opened fire although scored no direct hit as the weapon system was incorrectly operated by the crew. HMS Hood however mistakenly fired at the Prinz Eugen, who had been designed with a similar silhouette to that of the Bismarck, enforced by a unified paint scheme between two ships. HMS Hood second salvo came closer to the Prinz Eugen, but the German guns refused to return fire to the British ships. Bismarck and Prinz Eugen opened fire on the Hood, yielding immediate results as Prinz Eugen's high explosive shells caused a fire on the Hoods bow. The Prince of Wales retuned fire and penetrated the bow of the Bismarck which caused a major fuel leak and slowing down the ship's movement. Hood continued to focus fire on the Prinz Eugen as shells from the two German ships continued to rain around the Hood. Hood and Prince of Wales soon turned to port, allowing all British guns to open fire on the German opponents, yet just as Hood began to steer to a new heading, the fifth salvo of the Bismarck was launched, falling after 20 seconds of flight directly into the centre of the mighty Hoods upper deck – the exact location Holland had been attempting to avoid revealing. The Bismarck's shell penetrated the deck with at first, no result. Seconds later, a geyser of flames spewed out the deck of the battlecruiser, and an explosion caused by the ignition of ammunition below the ships main armour buckled the ship's hull and split the ship in half.

As for the HMS Prince of Wales, she continued to fire salvos at the Bismarck and the Prinz Eugen. She continued to push forwards closer to the engaging German ships, to a distance that allowed the Prinz Eugen secondary weapons to fire, about 12km or less. However, in fear of the attacking German ships, now launching twice the amount of shells in each salvo compared to the six on the Prince of Wales, Captain Leach on the ship ordered a smoke screen be launched and she turned and retreated Southeast away from the attacking German commerce raiders, sustaining medium damage from the Prinz Eugen.

The British ships had caused substantial damage to the Bismarck Battleship, whilst the Prinz Eugen escaped the encounter unharmed. The Bismarck had been hit multiple times in the bow from shells launched by HMS Prince of Wales, causing a slight listing to the port bow, whilst she had also been hit in the port tanks which caused a severe leakage of fuel which would eventually cause the death of the mighty Bismarck. Now Admiral Lütjens knew that the Royal Navy would seek revenge for the sinking of their 1920 Battlecruiser but had no idea that the Royal Navy would launch for the most part, all of their available capital ships. Returning to the fjords of Norway would be a task even more dangerous for the Battleship, forcing it to pass Scapa Flow and being in range of Royal Air Force and Fleet Air Arm attacks. He decided to continue with his mission, travelling Southwest with the Prinz Eugen. HMS Hood sank with a loss of all bar three of its crew, taking down 1,418 of its 1,421 crew, the greatest loss for the Royal Navy on one ship in the Second World War.

Part 2: The 'Hunt' for the Bismarck

Following the success of the Bismarck in sinking the attacking British Royal Navy ships HMS Hood and HMS Prince of Wales, the Royal Navy would send a task force of 12 ships in an attempt to sink the Bismarck out of revenge for sinking the pride of the Navy. Continuing to shadow and track the two German ships was British heavy cruisers HMS Norfolk and HMS Suffolk, who, with newer modern radar, was able to track the Bismarck without being detected themselves, supporting HMS Prince of Wales and allowing for any onboard repairs to be carried out.

The second force available to the Royal Navy was commanded by Admiral John Tovey, made up of three warships HMS Repulse, HMS King George V and the aircraft carrier HMS Victorious. However, the delicate placement of the Bismarck now played against Tovey's task force, as he was now more than 350 nautical miles away from the German capital ship, out of range from all aircraft on the Victorious. The British warships were also limited to a maximum speed of 28 knots, which the Bismarck managed to maintain and thus no distance could be gained.

Suddenly, poor weather in the area of the British task force of HMS Norfolk, Suffolk and the Prince of Wales meant radar contact was lost, and the Bismarck gained an opportunity to turn hard starboard and engage the trailing British warships now detected by the Prinz Eugen's hydrophone once more whilst she broke off and continued to carry out the original *'Operation Rheinübung'* and engage British convoys in the South. However, the fatal error of attempting to engage the British heavy cruisers allowed the aircraft carrier, HMS Victorious, to adjust course and enter range that was sufficient to launch Swordfish torpedo bomber aircraft in an attempt to slow down the Bismarck, allowing HMS King George V, HMS Repulse and HMS Rodney to engage the Bismarck. Only one torpedo reached the Bismarck and caused no significant damage. As the cruiser HMS Suffolk lost radar contact of the Bismarck, she turned around to head for France, however shortly regained contact once more after the Bismarck failed to maintain radio silence. This grave mistake meant Bletchley Park code breakers intercepted the transmissions and alerted the position of the Bismarck back to the Royal Navy task force (BazBattles, Operation Rheinübung: Hunt for the Bismarck 1941, 2018). The Bismarck was now once more at the mercy of British radars as she steamed towards to French coast in desperate hope to reach the range and aerial cover of the Luftwaffe stationed on the coast of occupied France.

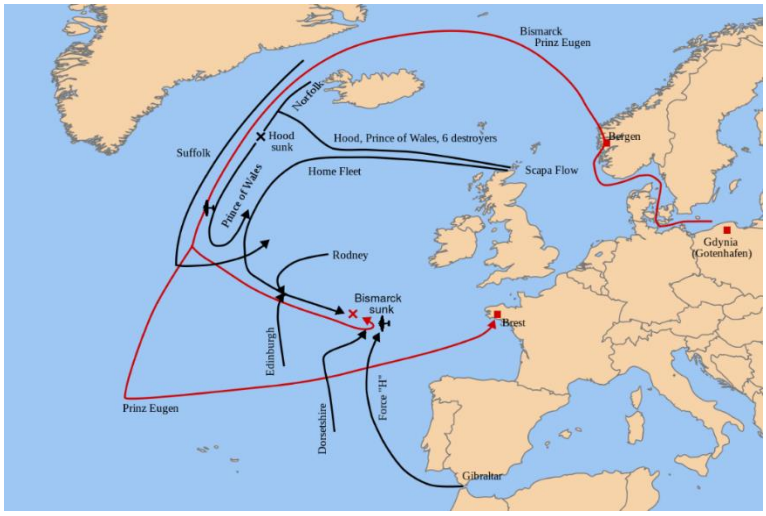


Figure 23 - map of route of Bismarck

However, by the time the Bismarck had been identified by British codebreakers, much of Admiral Tovey's task force had to break off to return to Scapa Flow due to shortage of fuel, leaving only the HMS King George V and HMS Rodney. The Bismarck was soon located by an RAF PBY Catalina reconnaissance aircraft. A second task force was launched, 'Force H', stationed in the Naval port in Gibraltar, launching HMS Ark Royal, HMS Sheffield and HMS Renown. Torpedo bombers from the Ark Royal attacked the Bismarck, detonating two of the three torpedoes on the Bismarck's mid-ship, jamming the rudders, causing the Bismarck to be forced into an uncontrollable loop. The next

morning, HMS King George V, HMS Rodney and HMS Norfolk arrived with HMS Ark Royal and HMS Sheffield, firing salvos early in the morning of the 27th May 1941. The trigger-happy engagement was joined by the heavy cruisers HMS Norfolk and HMS Dorsetshire, causing collateral damage for over 90 minutes. At 1039, HMS Dorsetshire launched torpedoes and the Bismarck disappeared beneath the waves, taking with it, approximately 2,200 of its crew (BazBattles, Operation Rheinübung: Hunt for the Bismarck 1941, 2018). This was a huge success for the Royal Navy and Great Britain, and whilst Britain had suffered a loss of HMS Hood, it was a significantly exciting event for the rest of the public and was a much-needed morale boost for Britain. It was also a major turning point, as Germany soon abandoned the idea of using capital battleships for engaging British and soon American merchant shipping routes, instead alternating to using smaller destroyers, cruisers, and primarily, the growing U-Boat force.

Chapter Five: Battle of North Cape

After the sinking of the Bismarck in May 1941, little capital ship activity took place in the Atlantic as German war efforts moved to focus on the invasion of the Soviet Union in Operation Barbarossa in the summer of 1941. Even though the Royal Navy would therefore not encounter much of the Germans heavy surface fleet, the battle would now begin to be waged against the growing power of the U-Boat forces, severely threatening the British convoy supply lines between Britain and other allied nations, across the Empire and beyond. However, by 1943, German surface fleet activity in the Atlantic began to increase dramatically, and by the Winter, saw the encounter of the last fully operational German Battleship, Scharnhorst.

Following orders in mid-1941 for Kriegsmarine operations to intercept British convoys to be halted using capital ships, the Scharnhorst was the last operational Battleship left for the Kriegsmarine, and in desperate measures for Germany, began reattempting to sink merchant convoys once more. Battleship Bismarck was sunk at the Battle of Denmark Strait in early summer-1941, and the Gneisenau, sister ship to the Scharnhorst, was attacked by RAF bombers in February 1942, forcing major repairs to take place – though they were not completed and was decommissioned in the summer of the same year, and scuttled in 1945. By 1943, the Tirpitz battleship, sister ship to the Bismarck, is undergoing repairs after heavy RAF bomber attacks, and is eventually sunk by RAF Lancaster's of 617 Squadron in 1944 whilst still in port.

Figure 24 - map of British convoys

By 1943, thousands of allied convoy ships were now being transported between Britain and the Soviet Union in what became recognised as the *'Arctic Convoys'*. A direct route was set up between the two nations, but treacherous conditions in the Arctic waters of the North Atlantic and wintery North Sea made travelling in the convoy extremely hostile for all crew. Constant bad weather, snow, fog and heavy wind and rain made for perilous conditions, which forced crews on British convoys to work tirelessly to ensure the safety of their shipping. The bad conditions were not felt only on the merchant ships, but just as bad, if not worse, on the British warships that were escorting. British ships escorting the convoy route in December 1943 included light cruiser HMS Belfast, along with heavy cruisers HMS Norfolk and HMS Sheffield.

On the 19th December 1943, the Battleship Scharnhorst was ordered to intercept the allied convoy group, heading past Norway along with support from five other destroyers. After Rear Admiral Bey, commander of the Scharnhorst, ordered his five destroyers to disperse to find the convoy, he lost contact with all ships, and under the bad winter weather, struggled to use the inferior and outdated radar system that was implemented on the battleship. British radar systems on the escorting cruisers quickly found the lone German Battleship, and soon overwhelmed the Scharnhorst. Within half an hour, the British cruisers closed distance and opened fire on the Battleship. One hour after the British ships lost contact, the Scharnhorst once again found the cruisers, and immediately opened fire and scored hits on the heavy cruiser, HMS Norfolk, which was returned against it by HMS Belfast and HMS Sheffield (BazBattles, The Battle of the North Cape 1943, 2019). The Norfolk returned fire and caused significant damage upon impact, hitting and disabling one of the Scharnhorst's forward firing turrets and destroying its only radar system, rendering it completely blind amid the twilight sky of the Arctic waters. Engine failures on the HMS Norfolk and HMS Sheffield soon caused them to drop behind and leave HMS Belfast to continue tracking and shadowing the damaged Scharnhorst until one hour later, HMS Belfast launched star-light shells which lit up the sky, turning night into day. As soon as the Scharnhorst was visible, high-calibre 14-inch shells flew onto the Scharnhorst's deck and destroyed her rear turret, being attacked by a second flotilla group comprised of Battleship HMS Duke of York, and cruisers HMS Jamaica and four more destroyers. They joined up with HMS Belfast and shortly after, met by cruiser HMS Norfolk once more, closing the distance. Two more of the Scharnhorst's turrets were destroyer by HMS Duke of York, leaving one remaining, and damaged turret fully operational.

British destroyers shortly caught up with the damaged Scharnhorst as she sailed ahead of the Duke of York, Jamaica and Belfast, launching several torpedoes with four scoring a hit, slowing her down to a mere 10 knots. The last turret was put out of action by HMS Belfast, and two explosions were heard after HMS Belfast and HMS Norfolk fired further torpedoes. In total, approximately 55 torpedoes had been fired against the Scharnhorst in an attempt to sink her, and after taking 11 hits of the original 55, she began to list to the side, and sank with a loss of 1,900 of her crew. This was a major victory for the Royal Navy, sinking the last operational German Battleship.

Figure 25 - HMS Duke of York during Battle of North Cape

Figure 26 – HMS Belfast during the Battle of North Cape

Chapter Six: The Battle of the Atlantic: a conclusion

The Battle of the Atlantic for Nazi Germany began to completely disintegrate following the sinking of the Bismarck in May 1941. By the time the Scharnhorst sank in winter of 1943, it was turning into a complete disaster. For Great Britain however, whilst losing HMS Hood was a total blow to how the Royal Navy was to operate in the Atlantic waters, it was apparent by 1942 that it was almost impossible for them to lose control of the waters. The biggest fear of Royal Navy ships after the sinking of the Bismarck and bombing of the Gneisenau, turned to the increasing German U-Boat force, and whilst they were particularly targeting British Merchant ships rather than military naval

forces, the threat remained evident. Nevertheless, the Battle of the Atlantic turned to be a major victory for Britain, and the Royal Navy remained firmly in control of the ocean, demonstrating its unprecedented importance in supporting Soviet operations against Germany in 1943 and 1944.

Towards the end of the Battle of the Atlantic, the Royal Navy would continue to see operation in the South China Sea, where HMS Prince of Wales and HMS Repulse would be lost after perilous air attacks from Japanese naval air forces, although the Royal Navy would regain its momentous success once more in 1944. HMS Belfast was later used as the British Flagship for coastal bombardment during the D-Day landings on the 6th June 1944, as well as serving as a medic ship for wounded British infantry. The British Pacific Fleet was soon set up, and supported America during the Battle of Okinawa and carried out other coastal bombardment roles, led by Admiral Bruce Fraser from 1944 with the flagship led by HMS Howe, a King George V class battleship.

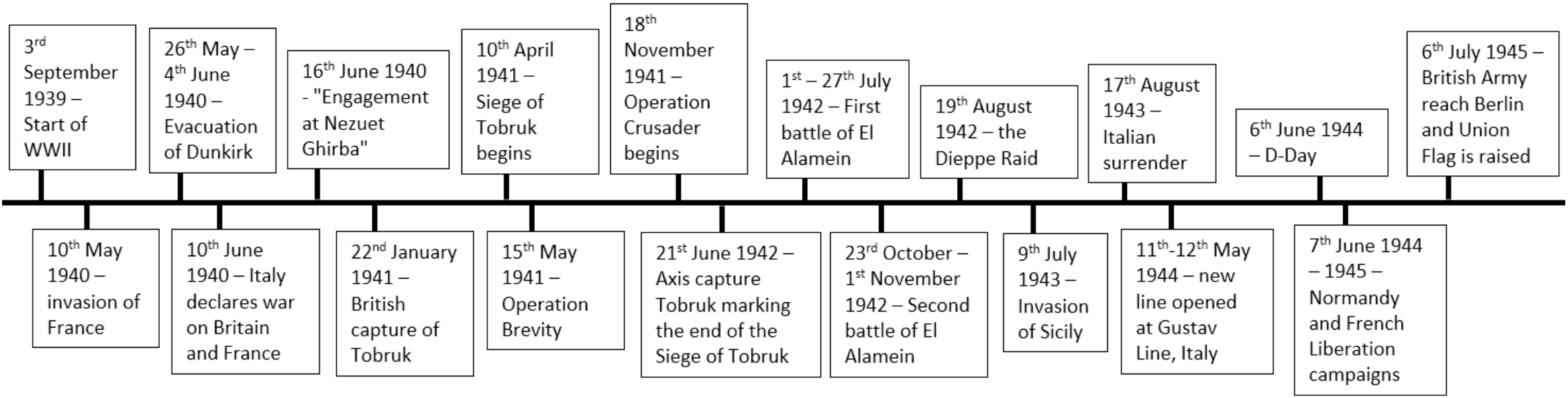
Whilst Britain remained at the peak of Naval force and a global leader in naval power, the Royal Navy was subject to the effects of the 1923 Washington Treaty, much like that of the US Navy. The treaty strictly limited the power of naval forces in attempt to prevent another global war, setting limits on sizes of ships such as a limit of 500,000 tons for Battleships.



British Involvement in the Second World War –

Part 2: the British Army – Europe and North Africa




3rd September 1939 – Start of WWII
10th May 1940 – invasion of France
26th May – 4th June 1940 – Evacuation of Dunkirk
10th June 1940 – Italy declares war on Britain and France
16th June 1940 - "Engagement at Nezuet Ghirba"
22nd January 1941 – British capture of Tobruk
10th April 1941 – Siege of Tobruk begins
15th May 1941 – Operation Brevity
18th November 1941 – Operation Crusader begins
21st June 1942 – Axis capture Tobruk marking the end of the Siege of Tobruk
1st – 27th July 1942 – First battle of El Alamein
23rd October – 1st November 1942 – Second battle of El Alamein
19th August 1942 – the Dieppe Raid
9th July 1943 – Invasion of Sicily
17th August 1943 – Italian surrender
11th-12th May 1944 – new line opened at Gustav Line, Italy
6th June 1944 – D-Day
7th June 1944 – 1945 – Normandy and French Liberation campaigns
6th July 1945 – British Army reach Berlin and Union Flag is raised

Introduction:

The British Expeditionary Force (BEF), now the modern British Army, was perhaps one of the most formidable military ground forces in Europe by 1944. However, at the outbreak of war in September 1939, an unprepared British government which had initiated a lack of rearmament for both the Royal Air Force and the BEF meant that by the time physical operations against the Nazi Wehrmacht forces began as they invaded France in the Spring of 1940, the Army was reasonably unprepared and lacked means of fighting the might of the German Army, who had used their new *'Blitzkrieg'* tactic to overwhelm much of European resistance. Arguably, perhaps it was a total defeat for the BEF in 1940, and by the time the Evacuation of Dunkirk took place in May to June 1940, British morale was at a substantially low point, only peaking once more after the end of the Battle of Britain and the Blitz from October 1940 and May 1941 respectively. Several other operations from the BEF would all amount to the momentous victory of the allies at the end of the war in May 1945, however this was not reached without substantial consequences, perhaps the most notorious in the failure of the Dieppe raid in 1942.

Chapter 1: Maginot Line, Calais and Dunkirk

Upon the declaration of war on Germany on the 3rd September 1939, British military infantry units (and Air Force components) were stationed in Northern France amid fear of invasion of France and preparing for brutal confrontation against the Germany military forces. Unbeknown to the British and French forces at the time the war started was the sheer strength of the German Wehrmacht and Luftwaffe and their ability to storm through European countries. Poland was invaded on the 1st September 1939 and it took less than 3 weeks for the German forces to reach their 'half way point' whilst the Soviet Union began invasion of Poland from the Eastern borders. This became a major wake up call for the British forces stationed in France. However, whilst German was occupied invading the lowland countries of Poland, the Netherlands, Denmark and eventually Belgium, a lack of encounters between British and German forces gave way to the period being known as the *'Phoney war'*. This long period lasting from September 1939 to May 1940 was a period of mix tension, and cruel reality. The British forces witnessed the loss of the surrounding European nations whilst no action was persecuted against Germany. The entirety of this issue was then causing the British and French forces to become subject to the same devastating blow to the war effort that was also endured by the neighbouring nations.

Before the invasion of France began, Germany was prepared with around 3 million soldiers stationed along the French/German border, which was defended by 2.2 million French and 500,000 British soldiers (Eastory, 2020). Whilst the numerical statistics were roughly similar for both sides, the allied nations had one slight advantage which was that the numerical force of their armies would be easily and quickly increased the longer the Germans waited before defeating the two nations. Significant French defences had been set up along the Maginot Line in Northeast France, whilst the South East was relatively protected by natural terrain. However, defences lacked along the border to neutral Belgium, a significant weak point for the French defenders and a possible attack point for Germany. Even though the French and British armies were stationed along the Franco-Belgium borders, they were not anticipating a full-out attack through Belgium, and therefore placed most of its protection and utilities along the Maginot Line.

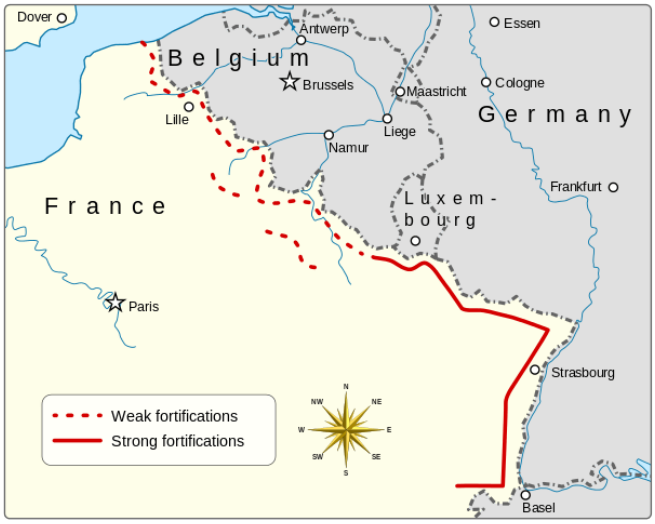


Figure 27 - Map of the Maginot Line

The German plan had been laid out to use single armoured units against the French and British armoured divisions which had been grouped together, therefore covering less of a vicinity around the Franco-Belgium border. The German invaders cut through the Ardennes region on the 10th May 1940, thus initiating the first face to face encounters between Britain, France and Germany and thus starting the Battle of France (Eastory, 2020).

However, whilst Germany knew of the positioning of the allied forces and may have been made from more armoured divisions than that of the British Expeditionary Force, the BEF was the only European military that was 100% mechanised, meaning even the divisions that were armed with a Bren carrier were better equipped than a high proportion of the advancing German Army. The British Armor equipment was also significantly more effective and well-armed compared to that of the 16 total German Panzer Divisions in 1940. Yet the cause of the evacuation was primarily due to the small number of the BEF that meant they were only effective as a strong supporting force, not the brunt of any counterattack or defensive position. The original design of the French campaign was that Britain would take lead in the naval force, and the French would take lead with their vast ground numbers with supporting armour from the BEF and have joint aerial operations over France from both the RAF and the 'Armee de l'Air'. However, overwhelming totals of German infantry flowing through the Ardennes region and behind the Maginot Line meant Britain and France were relatively unprepared. As the German army swiftly invaded the north of France and fell through to the channel by the 21st May 1940, British and French forces originally designated to enforcing a counter offensive against the spearhead of the German invasion force were forced to pull back to protect the coastal ports as Germany threatened to cut off their supply line at Boulogne, Calais and Dunkirk. Much of the French army stationed in the north were now surrounded by the German army and were unable to force a counterattack, causing all British forces and the remaining French units to retreat to the ports still controlled by the allies. German forces wanted to strangle the British forces retreating to the Channel ports, and initiated the Siege of Calais on the 22nd May which lasted until the 26th May.

Nazi groups had prepared the 10th Panzer Division and the XIX Armee Corps in order to attack Calais as soon as the order was given on the night of the 21st/22nd May 1940, however British tank regiments had managed to reinforce what was left of the Franco-British forces left at the Port of Calais. Most of the British reinforcements made by the BEF had failed, particularly following their failure to reinforce the southern hardpoint at Boulogne and by the 23rd May 1940, German forces began the siege of Calais.

Whilst [Germany] were successfully pushing allied forces further into the Port, reports that evening stated half their tanks had been destroyed and most of the infantry present during the attacks had now become a casualty or had been killed. From the 24th to the 25th of May, allied forces had planned a retreat to re-join those waiting at Dunkirk, although following a fast-approaching German assault line cutting off most of the safe paths to Dunkirk, the manoeuvre was quickly called off. Orders continued to transmit from London to maintain their defensive position and continue to hold

against the German offensive if possible. Aerial attacks had begun to swiftly move in, targeting both Calais and Dunkirk, yet any evacuation from Calais had been unauthorised by the French government. The Royal Navy offered bombardment support against many German coastal points in a desperate attempt to alleviate pressure on the BEF from the invading Wehrmacht forces, although their attacks were not slowing down the advance.

On the morning of the 26th of May, German Commanders at Calais had been issued the order to capture Calais by 1400 or their forces would be pulled back with cover from the Luftwaffe. By 1600 on the same day, allied forces began collapsing and the order "every man for himself" was issued to the defenders as the French commander surrendered. The RAF and aircraft from the Fleet Air Arm would begin removing troops left at Calais, which by the end of the Siege totalled around 400, and supplies would be transported to those remaining. Air attacks were now being made against the German artillery still attacking, however, Calais was fully captured by the evening of the 26th May 1940 (Latimer, 1988).

After the Siege of Calais, the last defensive position maintained by the allies was Dunkirk. As the French commander in Northern France had surrendered during Calais, it was now down to British commanders to decide and plan the evacuation from Dunkirk. British commanders knew that in order to have any kind of chance to fight back the German war machine, they would need at least 100,000 men rescued from these beaches, however in a directive issued by Churchill, he soon made clear the dire situation of the British forces awaiting evacuation back to Britain and announced to the public that he requested at least 45,000 men be rescued from Dunkirk.

By focussing on one specific Regiment involved during the evacuation of Dunkirk, I will be able to reflect upon the sorts of climates endured and the situations the British regiments would've encountered between the 26th May and 4th June 1940.

The awarding of the Victoria Cross to **Lieutenant acting Captain Harold Marcus Ervine-Andrew,** who was part of the East Lancashire Regiment during the invasion of France and the Dunkirk Evacuation. Firstly, the fact that he was an acting Captain as a Lieutenant demonstrates the desperate cause of the British Expeditionary Force by the time the evacuation was initiated on the 26th May 1940. As outlined in the War office document, ***'WO 98/8/717'*** describes the cause and reasoning for the awarding of the VC by King George VI on the 30th June 1940. The reasoning for the awarding of the VC to Lieutenant (*Captain by the time of the awarding),* was in relation to his most *"conspicuous gallantry on the night of the 31st May 1940"* (IWM, WO 98/8/717, 1940). The source outlines that for around 10 hours overnight, he and his Company as part of the East Lancashire Regiment, endured artillery, mortar and heavy machine-gun fire whilst protecting the line at the Canal de Bergues until the enemy attacked the enforcement at dawn on the 1st June. The action of the enemy overwhelmed another company of his battalion and broke through whilst they were unable to protect his current position. The source states that he called for volunteer support during the attack, whilst he himself climbed onto the roof of a small straw-barn and repelled the enemy with light automatic rifle fire, whilst continuing to endure mortar bombardment from the enemy. His brave act managed to claim 17 enemy kills with his own rifle until he used a nearby Bren Gun to claim several more. He then arranged the removal of his wounded soldiers as their current household being held was bombarded continuously "until it was set alight and his ammunition had been expended and gathered the remaining eight men of his company" (IWM, WO 98/8/717, 1940), leading them to a new forward position and continued to lead his eight-man group to a new cover position, travelling through some of the most notorious conditions and "wading through water that was chin-high for over a mile" (IWM, WO 98/8/717, 1940). This example of bravery and courage with extremely

pronounced leadership skills by Captain Ervine-Andrews is a prime demonstration of the desperate situation the BEF had been forced to endure until they were able to reach the safety of the Mole and the awaiting evacuation force provided by the Royal Navy and covered by the Royal Air Force. It is one of the most gallant examples of inter-military branch cooperation, even though the Royal Air Force would be subject to abuse and absence claims from the BEF and Royal Navy.

Even though the removal of troops from Dunkirk is classified as an evacuation, and the German invasion of France around the Maginot Line in Northern France was a catastrophe in operations of the BEF and the French Army, the success of the evacuation by removing 330,000 of the originally desired 45,000 requested by Sir Winston Churchill, demonstrates the success of BEF organisation and Operation, especially when considering the order *'every man for himself'* was issued prior to the evacuation. Even though only one example of courageous actions has been outlined, there are unprecedented accounts of sheer determination of other members of the BEF in evacuating as many troops as possible from the beaches of Dunkirk and Northern France in May – June 1940.

Chapter 2: the Siege of Tobruk

The North African Campaign had begun on the 10th June 1940 and the closure of this front wasn't until the 16th May 1943, however initial fears of Italian fascism against the British and French colonies of Africa were arising in 1935 and 1936 when Italian troops invaded Ethiopia. Britain particularly feared Italian movement in North Africa due to the location of the Suez Canal – a vital river flowing through North Africa which provided a lifeline between Britain and its Empire, connecting all major areas of control and allowing for vital trade routes to and from Britain.

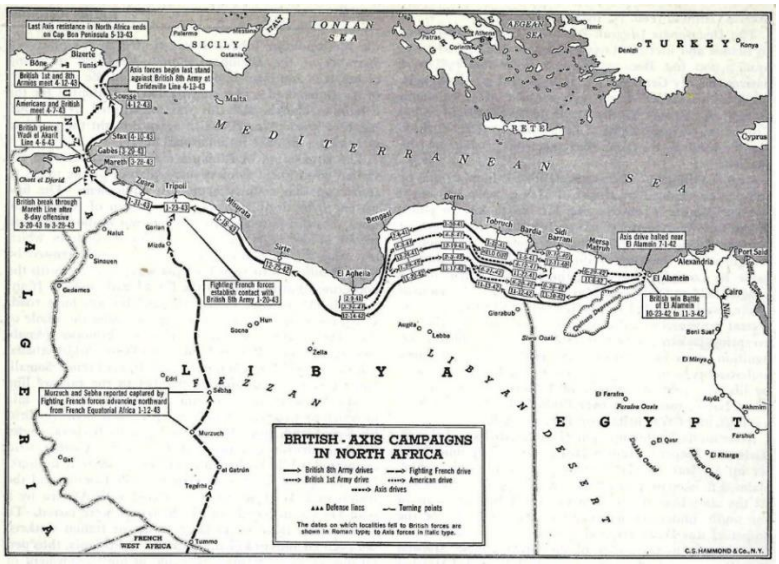


Figure 28 - North African Campaigns (Encyclopaedia Britannica, Inc.)

The importance in location of Tobruk during the North African Campaign for the British, Italian and Germans was paramount. It was the only major deep-water port in East Libya which provided substantial amounts of different resources for any occupant of the area. As a result of its vitality to any military force in the area, meant it had been heavily fortified by its former Italian occupants. During the initial phases of allied operations in North Africa, the British were sustaining heavy losses and many operations were appearing to be less valuable than what they were attempting to capture. Initial success of a British offensive against Rommel's Afrika Corps in the middle east in November 1941, by putting significant pressure on the defensive German point, forced Rommel's forces to retreat out of the region of Cyrenaica and fall back to Agedabia (Britannica, Libya and

Egypt, autumn 1941–summer 1942, 2021). Britain attempted to finish off the force in the now located Agedabia region on the 26th December 1941, however this failed, and now, even though merely reinforced, prepared to counterattack the British at Cyrenaica. The attack commenced on the 21st January 1942.

A period of relaxation between the offensive German forces and the defending British tanks allowed both sides to reinforce defences in fear of a counterattack. However, the battle was reinitiated once more on the 26th May 1942. A surprise offensive around the lower, less defended side of the British reinforcements meant the German forces were able to push through and continued to progress now using three German and two Italian forces and left only four Italian groups to defend the Gazala Line (Britannica, Libya and Egypt, autumn 1941–summer 1942, 2021). Whilst at first, Rommel's attacking tank forces were successful and were able to destroy several British tanks, however a counter offensive from the British tanks meant around 1/3 of the German tanks were lost in a single day – a substantial proportion of the military force available to Rommel in Africa and a decisive moment for Britain. The situation of the British forces in a defensive position became increasingly desperate, despite the Germans now maintaining a defensive position in what was known as the *'cauldron'.* The 8th Army, commanded by General Neil Richie, had been forced to retreat following the German attack in January 1942 to the Gazala Bir Hakeim line, west of Tobruk. British commanders believed that retreating further back to the safe haven of Tobruk where the Royal Navy would be able to supply remaining British armour and infantry forces would be a suitable option. British armoured forces had been reinforced between January and May 1942 with American M3 Grant tanks which, armed with a 75mm cannon, could, as described by Rommel, *"tare great holes in our ranks"* (Britannica, Libya and Egypt, autumn 1941–summer 1942, 2021).

Due to the significant reinforcement of the British forces, and the lack of armour now placed along the Gazala Line, Rommel was unable to push straight through to the sea where he targeted to reach by the end of the year. The RAF now attacked the defensive position maintained by Rommel, whilst the 8th Army Division bombarded the German forces on the ground. However, a major failure of the British armed forces was produced as forces along the Gazala line continued to pummel the German ground units with attacks that proved to be highly ineffective and very expensive on the already weakened and economically drained British ground groups. On the 11th June 1942, Rommel's panzer Division coordinated a dramatic blow to the eastern British forces, trapping the remaining British Tank units and therefore depleting them of all necessary equipment. Rommel's forces suddenly attacked the British at the Gazala Line on the 14th June 1942 and forced a retreat back to the sea, leaving much of the forces at Tobruk, east of the Gazala Line, poorly defended and prone to a massacre from the German forces. Rommel now knew that the final attack to capture Tobruk was definite, and on the 21st June 1942, German panzer divisions began the Siege of Tobruk to push Britain out of East Libya.

On the 17th June 1942, Rommel began the final Siege of Tobruk – the final operation to push British forces out of Tobruk and Eastern Libya and install total German control of the Eastern half of the North African country. The operation which would last a total of four days, also known as the Fall of Tobruk or the Second Battle of Tobruk, was arguably one of the biggest military disasters for the British Army in Africa, and one of the biggest military disasters of the British military following the fall of France and the evacuation of Dunkirk. British tank forces that were fighting-fit now numbered less than a third of what it stood at just over a few weeks before the engagement. The 33,000 men left at Tobruk after the retreat from Gazala line were depleted of vital resources, even basic materials such as adequate food and water, and were left in the sweltering heat of North Africa. The major Operation took place on the 20th June, with the Luftwaffe conducting around 580 sorties over

Tobruk starting in the early hours of the morning and progressing throughout the day. The German ground units began their final attack at 0700 on the 20th June 1940 and within 45 minutes, British forces on the Eastern side of the Garrison that had been fortified the day before, had been liquified. Two hours later, many major strongpoints had been captured by the German Panzer Divisions and the planned British counterattack was never consolidated. By the afternoon of the initial attacks, the South African Corps Commander General Henrik Klopper, ordered Officers at Tobruk to surrender, unable to sustain the losses being caused to the British forces. As a result, Rommel took "30,000 prisoners, 2,000 vehicles, 2,000 tons of fuel, and 5,000 tons of rations" (History.com, 2020).

Chapter three: the failed Dieppe Raid

1942 was nothing short of a disaster year for British military operations in almost all theatres. Very few military achievements were made during the year, and the Dieppe raid was simply an addition to the catastrophes of the year. The Dieppe Raid, codenamed *'Operation Jubilee',* was perhaps the biggest combined military disaster of the British and Canadian armed forces. Its primary objective was to capture and hold a major port in the French coastal town of Dieppe, occupied by the German armed forces. Whilst it was under British and Canadian occupation, they would gather significant intelligence data which would ultimately play in favour of the allies for a future invasion of France (later known as D-Day). They would also use the opportunity to demolish and cause significant damage to local infrastructure and industrial schemes surrounding the area and, should the taskforce be a success, would ultimately provide a much-needed morale boost for the British and Canadian military and show to Hitler that Britain was very much still a force to be reckoned with, and a fighting force which could threaten to undermine the integrity of the German occupation of Europe. However, the outcome of the operation was significantly different to what the British and Canadian joint command wanted and resulted in losses not seen so far in the Second World War.

British politicians and military high command believed that supporting the French in excluding the German occupants from their country would result in a French re-involvement in the conflict as an individual state, and boost operational support for the current allied forces, along with the recent American declaration of war on the Japanese and Germans (entering officially on the 8th December 1941). Furthermore, political tensions raged between the western capitalist countries, America and Britain against the eastern communist state, the Soviet Union. The USSR entered the war in the summer of 1941, when German forces attacked the eastern nation in Hitlers attempt to capture the largest European state, undermining the treaty agreed a few weeks before the war began and allowing the USSR to support the German invasion of Poland. The new Soviet allied country assumed Britain and America would soon open a Western front whilst German forces were heavily preoccupied fighting in the East. Not only would the German forces simply be split in half and the German government effectively divided, but it would heavily reduce losses being sustained against the Russian Red Army on the new Eastern front. In a desperate and quick resolution to the rising demands being set out by Soviet Leader Joseph Stalin, Canadian and British forces began to plan out *'Operation Jubilee'* for the summer of 1942.

The initial plan for the operation was reasonably simple; following 'commando' tactics which were still fairly population and had been since the start of the war. For Germany, commando operations were the predominant reason for their swift success across the European continent, however as they were now familiar with these tactics, British and Canadian success at the Dieppe port in France was dramatically reduced. Even though their initial intelligence didn't prepare them for an invasion from the West, especially at Dieppe, their military capabilities were no weaker than they had been

when Germany captured France in June 1940 (although consequently were forced to introduce and maintain increased protection against these potential threats from Great Britain).

One major factor played against the allied attempt to land at Dieppe. Geographically, the port was a difficulty and had been even during the planning phases of the operation. Made in a similar natural design to that of the port of Dover in the Southeast of England, the port was surrounded by Chalk cliffs, worsened by steep cliff faces making it difficult to not only land troops there via a seaborne invasion, but to also evacuate large forces. Transport of heavy equipment and thousands of running troops was also a logistical struggle as the beach consisted of stones and not sand. The port also remained a strategic strong point for the German army and had been since the summer of 1940. Whilst *'Operation Sealion'* had been 'postponed' by Hitler after the failure of the Luftwaffe to defeat the Royal Air Force and gain air superiority, Hitler kept the majority of his ground forces on standby at Dieppe which he continued to plan to use should he achieve success in crushing the Soviet forces.

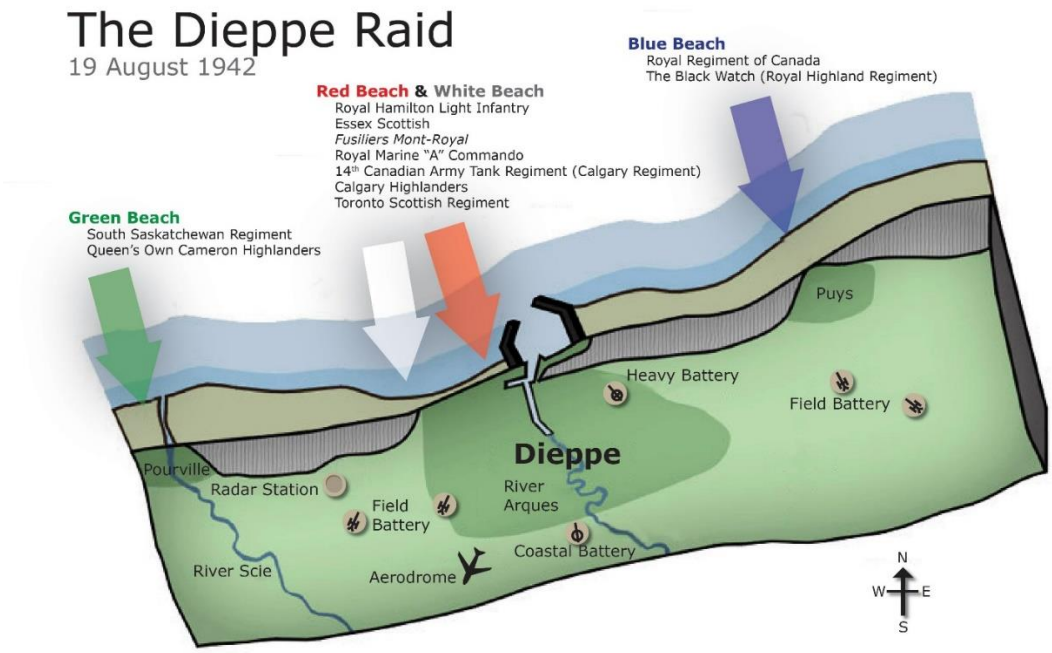


Figure 29 – the planned invasion of Dieppe

Initially, the port had planned to be occupied for around 48 hours to inflict maximum damage to the German supply, whilst paratroopers particularly focused attacks on German artillery points and the British fleet bombarded the coastal ports and batteries. However, sudden dropping support for the operation resulted in a dramatic reduction of manpower and supporting fire from the coast. Just months before the operation was due to take place, drastic changes to the British military weapon preparations were limited in factors of both fear of loss of precious military equipment as well as sudden alterations which meant resources had to be diverted to prepare a different military operation primarily in Africa. For example, the Royal Navy removed support to operate capital battleships as naval support in fear of U-boat attacks. The RAF no longer planned to support the invasion force with Bomber Command and instead, the ground attack role had been given to Fighter Command. The army replaced paratroopers with Royal Commandos, all three factors which played a role in hindering the failure of the Dieppe raid (Museum T. N., 2021).

In support of the British commando forces and the Canadian infantry units who had been admitted to the assault force, 50 US Army Rangers were also added to the group; a unit who had been

modelled after the British Commandos, with their training even following that of the Commandos in Scotland (Museum T. N., 2021).

Fighting in the event first began in the early hours of the 19th August 1942 where the first major issue fell upon the invasion force: the US Ranger force had been admitted to form a new 'wing' along with the No.3 Royal Commando force. The unit had been ordered to travel in five landing craft ship, each of which carried 100 men – however the commando force had not been briefed on the US involvement in the invasion, causing them to 'fight' their way through the British counterparts. They struggled to reach the top of the topographically challenging hills of the port, where all British and American forces were overrun by German artillery soldiers and supportive armour, whilst German machine gun fire mowed down American and British assaulting troops causing some of the first allied ground losses on the continent since the evacuation of Dunkirk in 1940.

As the first wave of allied invasion forces crammed out of the landing craft, German advantageous positioning along the clifftops, caused tremendous losses for British command. Initial assaults began on the flanking sides of the port, who were originally planned to take action against surrounding German artillery points, and eventually link back up with the main attack who began their assault 30 minutes after the East and West flanking attacks. Attempts for the British invaders to breach the seawall were met with returning defensive German machine gun fire, and all attempts to breach the wall was repelled (Government, 2019). The allied invasion attempt was quickly halted by the German defenders on the ground whilst a huge air battle ensued over the channel along the coast, a size not seen since the darkest days of the Battle of Britain nearly 3 years before. Initially, 18 Royal Marine Commando units were able to land on the shore, meaning their initial attacking phase had already been lost and all elements of surprise were diminished. They turned to sniping German heavy gunners on outposts along the coast which initially kept them at bay, until superior forces left them no other option but to retreat, having failed all initial mission objectives. Nevertheless, more Commando forces continued to arrive, having no intelligence which could've led to the protection of those in the follow-up assaults.

Not all was lost however in the attacks. No.4 Commando group operated a near flawless operation. Led by Captain Pat Porteous, they overran a German coastal battery which was targeting British and Canadian infantry and light seacraft. Porteous was later awarded the Victoria Cross for his bravery and support to the Western flank of the operation which eventually proved to be a pointless short-term operation, however an effective display of British determination to continue the war and desire to remove the German occupants from the rest of mainland Europe.

By the end of the operation, most British and Canadian soldiers had either been killed or taken Prisoner of War by Germany; very few were lucky enough to return to England. Almost 4,000 troops of the combined operations had been killed or were to die of their wounds shortly after the assault. Canadians were predominantly targeted in the raid: 907 were killed at the beach and further men died of their wounds later on. Nearly 2,000 were taken prisoner. Less than half of their 5,000 troops returned to England. The Royal Marines lost nearly 300 of their initial force, and an overall setback of 60% of the British and Canadian fighting force (CombinedOps, 2000).

The main reason for the failure is still subject to popular belief. However, it is primarily argued that the main reasons are in relation to poor Intelligence that had been ineffectively communicated, poorly interpreted and was highly misleading to perhaps suggest what the allied commanders of the force wanted to read. Statistics produced by British Intelligence agencies in the MoD were poorly calculated and were substantially indecisive regarding German defensive positions, defensive

numerical value and German knowledge of the raid which led to preparations to be in place before the main front of the force had arrived at Dieppe.

Chapter four: Monte Cassino:

The Battle of Monte Cassino took place following the allied invasion of Italy in the summer of 1943; within a year, Italy would subsequently surrender. However, the eventual surrender was not without its significant losses. The Battle of Monte Cassino (also referenced as the Battle of Rome) was a series of four main assaults made by the allied forces from early January 1944 and involved around 20 different military divisions which covered a total of 20 miles. (White, 2019).

Figure 30 - Map of invasion of Italy and Monte Cassino

In the lead up to the invasion of Italy, Hitler, determined to maintain and contest every inch of European territory, ordered his Commander in Italy, Field Marshal Albert Kesselring to construct a defensive line 100 miles south of Rome, forming the Gustav Line (Gov.UK, 2004). Hitler initially had the upper hand at the start of the Italian invasion through Sicily, as much of the southern territory was high ground which gave an altitude advantage to the defending German forces.

However, at the start of the Italian Campaign in the summer of 1943, neither the USA nor Britain were able to equally decide what the overall aim of the allied advance into Italy would produce. The British Prime Minister, Winston Churchill, was convinced that by breaking into Italy and through the Italian defenders, the allies would be able to also defeat much of the German force stationed in the southern operation zone of Europe. He was also convinced that by capturing Italy and defeating the German and Italian units there, he would also be able to enter Austria and use the Alps for cover and eventually take Vienna before the arrival of the advancing Russian forces. In contrast, the USA commanders were initially reluctant to support any invasion of Italy and believed it would come to no overall conclusion with a high casualty rate. They also believed that the British were going to use it as a way to delay the European invasion at Normandy which had been over a year in the planning. Nevertheless, Britain eventually persuaded America to the invasion and both agreed to at the least, use it as a distraction of German High Command and eventually manoeuvre the German forces away from both Stalingrad as well as Normandy (Gov.UK, 2004).

The first engagement at Monte Cassino took place between 12th January and 9th February 1944. The current state of the allied invasion was well underway, however the first attack against German forces at the Gustav Line was a complete failure made by the US 5th Army along the southern coast of Rome. Known as *'Operation Shingle'* and supported by British and French forces, the American force within the Anzio beachhead became isolated under a fierce and consistent counterattack. Whilst it was a difficult period for the American 5th Army, the British X Corps and French Expeditionary Force managed to mount an attack on the Gustav Line which allowed the British force to divert around Monte Cassino and attack on both flanks whilst the US 5th Army eventually managed to create a decisive thrust but against the southern units along Route 6 (Gov.UK, 2004). Whilst the French Expeditionary Force (FEF) fought through a bloody yet decisive battle, the British X Corps assaulted the Garigliano River however the British were met by fierce, battle-hardened German units who had created machine gun emplacements along the line.

Figure 31 - Monte Cassino British soldiers

Fighting was grim for all of the invading forces and the outlook of the allied success seemed bleak at first, greatly demonstrated by US casualties; the US 36th Division lost just under 2000 men and was down to 1/3 of its original fighting force but continued to fight across the Rapido and tried capturing Monte Cassino from the north, only stopped 1000 yards from the monastery as German machine gun emplacements mowed down American units.

The Second Battle of Monte Cassino, from 15th – 18th February 1944, was predominantly operated by British Indian and New Zealand regiments: the 4th Indian Division and the 2nd New Zealand Division. The initial plan was for Lieutenant-General Bernard Fryeburg's forces to encircle Monte Cassino rather than create a direct assault on the monastery, however this plan was quickly hindered by the lack of mule transport to the area and therefore no efficient coordination to resupply units. Overall at first glance, it was a similar attack to that which had been coordinated by the American units a few days prior. However, the RAF and the USAAF would quickly become involved to support the attacking British ground units and bomb the monastery to disperse German gun posts (Rickard J. , Second Battle of Cassino, 15-18 February 1944, 2018). The main value of the Monastery at Cassino was the artistic and precious metals; German forces moved them from the monastery to Rome and placed them under protection of the Vatican. The 4th Indian Division had been ordered to capture Monastery Hill at the same time as the 2nd New Zealand Regiment attacking the town of Cassino in the south. After close inspection of plans made for the Monastery, its thick walls could hold potential for it to be held as a fortress and therefore become a strong emplacement for whoever captured and controlled it. This therefore led to the commander of the 12th Air Force, General John Cannon, promise to destroy the monasterial position if he was allowed to use his entire bombing force (Rickard J. , Second Battle of Cassino, 15-18 February 1944, 2018). The RAF and the USAF were keen to be involved in the operations to secure Monte Cassino, and there was little opposition to take part in the operations with both allied air forces. Initially, the Supreme Allied Commanders of the Mediterranean forces deeply opposed the idea of bombing an area of such international cultural and heritage importance. However, it became what can only be described as a 'military necessity' to the success of the allied invasion and capture of the area. Although, it was eventually concluded that the bombing would not take place on the 14th as it had previously been believed, primarily due to lack of efficient coordination's made by all allied air components and instead, after deep negotiations, the German army and civilian refugees in the area left as the Indian Division moved into the front line, the final bombing operation took place on the 15th February at 0945 and eventually >600 tons of HE bombs were released on the building whilst allied artillery barrages continued to bombard the surrounding area. However, the plan completely failed, and rather than destroying the area to prevent the movement of the German army, rather created an even more

operationally suitable fortress to which the Germans took upon themselves and moved into on the 17th February 1944. Two attacks by the Sussex battalion and the 7th Brigade later joined by six further units from the 7th Brigade failed and on the 18th February, it was decided to halt all attacks until a period of renewable could be undertaken and by which point, allow the allied forces to prepare a renewed bombardment plan.

Figure 32 - Photos of the Cathedral in Cassino

Three weeks passed until the third battle of Monte Cassino could take place due to unforeseen poor weather and visibility which limited the activity of the allied air units.

From the 19th February to 5th June 1944, the third and fourth final battles for Monte Cassino would take place. Fighting in the final months of the encounters was brutal and difficult for both sides. The previous bombing campaigns carried out by the allied air forces during the Second Battle for Monte Cassino had left the terrain extremely jagged and sharp which had not been considered by the commanders located in the narrow valley to the south of the engaged area. This, joined with bad weather most notably on the 15th March, meant a series of aerial and artillery bombardments sequences were postponed and new routes had to be formatted for the infantry on the front line (particularly the New Zealand troops). Once bad weather somewhat dissipated, 1000+ allied artillery guns bombarded the town once more following on from a previous air raid by the USAAF however it is believed that this raid caused more problems than support for the allied ground units. A series of poorly calculated attacks meant the Monastery itself was not targeted in the assaults, and whilst the axis forces who were by this point, strictly defending, had been flattened to near complete destruction, the terrain was once more worsened, causing many allied units, particularly any allied armoured divisions, to be prevented from any further manoeuvres and their assault had been halted (Gov.UK, 2004). 435 aircraft bombarded the area hours before the 1000-strong artillery bombardment, and in total, 1000 HE bombs had been dropped followed by 4,000 tons of HE shells. As a result of the heavy bombardments, the 1st Parachute Division lost most of their armour support amongst the rubble left behind. In the gap between the second and third battle (which was at first unplanned), the German defenders has time to construct bomb-resistant shelters and a large array of bunkers quickly reinforced by steel constructions which therefore meant the day-long artillery and aerial attacks once more yielded results which were deeply unsatisfactory. Further British units were lost in the bombardments or had been killed by the defending forces as British commanders were unaware of the reinforcements the Germans had taken upon themselves. The 2nd Battalion of the 3rd Paratroop regiment lost 50% of its fighting force (Rickard H. , 2015). Progress was made on the northern side of the town when the 25th Battalion captured Peak 193, although general progress was extremely limited. The German forces had regrouped and relocated to reinforce the main highway north of the town centre and holding the central railway station which limited the British and New Zealand regiments from advancing through the town.

Fighting here reached a stalemate from the 15th to the 17th March until the New Zealand regiment finally made a breakthrough and managed to advance as far as the railway station, attacking from the east (Rickard H. , 2015). However, the centre of Cassino remained firmly in control by the Germans and whilst progress was being made by the allied forces, it was extremely limited, and losses were mounting at the end of each day. The American forces began to crack by the end of the week, and the final assault was launched by General Alexander on the 22nd March although it failed and marked the demise of the US 5th Army.

The Fourth Battle of Cassino finally saw the progress in Southern Italy that the allies had been hoping for, and finally ruptured the stalemate which had ravaged the allied units for months. Fighting finally began to target Rome after the allies had successfully defended Salerno Bridgehead and broke through Naples (Rickard J. , Fourth Battle of Cassino, 2018). During the stalemate and ineffective assaults being made by the allied forces meant the Germans had plenty of time to reinforce and redirect their resources to build up protection along the Gustav Line along the Garigliano River up to the Aurunci Mountains.

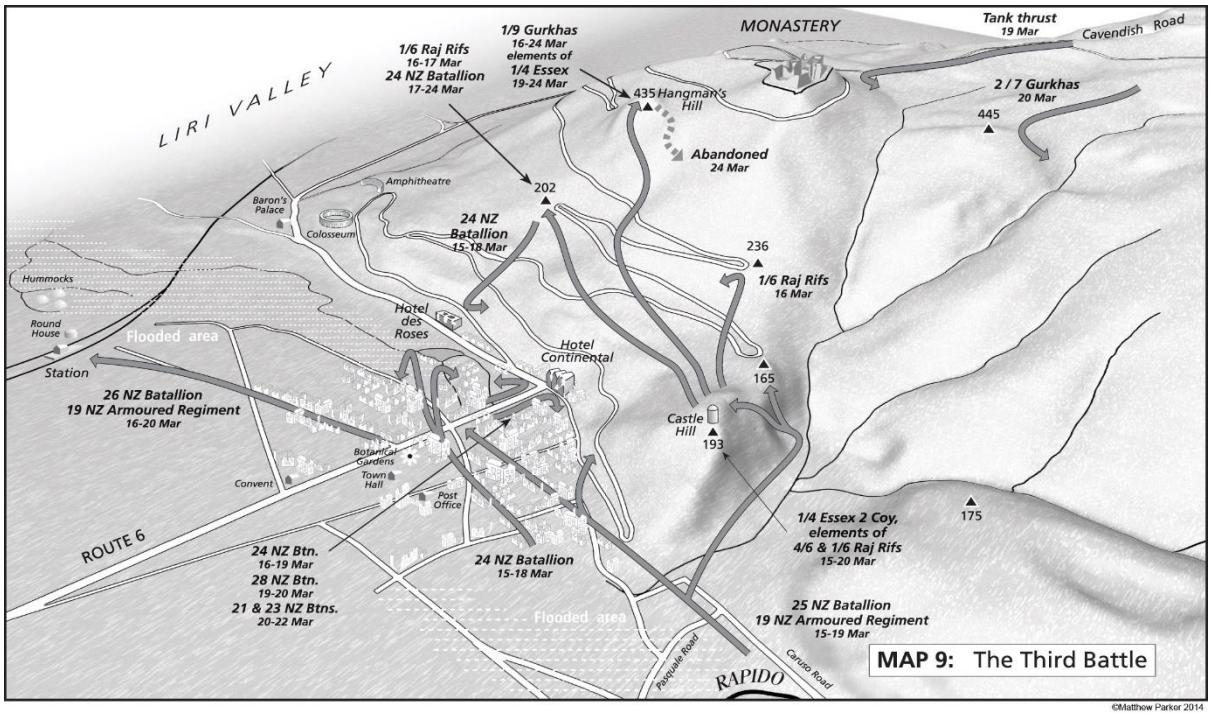


Figure 33 - map of the attack on the fourth battle

Following three consecutive almost completely fatal and indecisive attacks made by British and American units in Italy, Church began to fear for his political stability in Parliament. It was after all his own idea to attack Germany through Italy in 1943 in attempt to attack Berlin from the South rather than from the later-planned Normandy front. In attempt to revert the focus and blame for the failure of the allied movement in Italy from him, he began to question the strategical ability of the allied ground commander, General Alexander, however eventually opened to planning a joint strategic operation with involvement from Churchill himself. The plan involved moving the British Eighth Army to the new Adriatic Front, where for a long period had received no major involvement or seen any action (Rickard J. , Fourth Battle of Cassino, 2018). The new plan was coded Operation '*DIADEM*' which was the nickname used to refer to the Operations in Italy during 1944. The idea of this new plan was completely unlike the previous two attacks in the First and Second Battle of Cassino in early to mid-1943 and would utilize different allied units and strategic aerial support

compared to the flaunted and unidentified target bombing which was often miscalculated and poorly accessed in previous engagements.

Targets for the main operation were carried out by the British 4th Division and 8th Indian Division to support the US Eighth Army along Liri Valley and eventually form the 'spear-head' which was coordinated by the 78th British and 1st Canadian Armoured Divisions. This time, even a coastal route would be utilized by the US Fifth Army along with the French Expeditionary Force. The attacking forces resumed fighting on the 11th May starting with yet another, however more coordinated artillery barrage which covered the entire front rather than directing all firepower on one specific location and utterly obliterating the terrain.

British forces then followed through the artillery by progressing very narrowly with the British XIII Corps who 'ruptured' the Gustav Line as planned (Gov.UK, 2004). Whilst at first odds once more seemed against the allied units as the Germans held a strong defensive position, by the 13th May they had finally completely disrupted the enemy lines and their defences were broken. They could finally break through and the stalemate which had enraged over Southern Italy finally ended. Alongside the British and Canadian forces, the Polish II Division fought brutally, particularly targeting Major-General Richard Heidrich's paratroopers who were key to the defence of Monte Cassino. Whilst they were at first pushed back to their initial positions, it wasn't long until the German paratroopers were once more overwhelmed and on the 17th May, German strongholds had been abandoned. A polish officer describes the fighting between the 13th and 17th May: *"…the German guns blasted us so effectively that we were obliged to throw ourselves flat and crawl around looking for cover… It seemed impossible that men could live in such a holocaust. Breathing a prayer, I groped blindly towards a shell hole. It was filled with bodies, sprawling on top of each other. Most of them were lifeless, but… I clawed frantically at those on top in an effort to burrow deeper."* (Gov.UK, 2004). The fighting at Cassino eventually came to a close when the British and Polish Divisions overwhelmed the German units defending the Southern and Eastern parts of Monte Cassino, and news soon arrived that Cassino had fallen and was now in complete control under the allied units. After Cassino fell on 18th May 1944, Rome was to fall under the ally's control just before the new of D-Day success in Normandy on the 5th June 1944. Italy officially surrendered to the allies in September 1943, and it was the fall of Cassino that was vital to the quick and more successful assaults on Rome and marked the allies first strong foothold in German occupied Europe.

Chapter five: British involvement on D-Day

Following the Fall of Rome on the 5th June 1944, a hugely successful operation which was to be overlooked by Normandy invasions on the 6th June, D-Day was the second major allied offensive against occupied Europe in World War Two.

D-Day, or Operation **'***Overlord'* which was the nickname given to the operation in the early months of 1944, is the invasion of Northern Europe through France. France was one of the first major nations to surrender to Germany in June 1940, and four years later, France was once again the main battleground for the conflict in Europe.

D-Day was a hugely successful and pivotal moment in European history as it marked the first time in the war that the allies were strong enough to finally invade and counter German aggression in Europe in WWII. Whilst the British involvement in D-Day was essential in its quick and valuable success, it cannot go without mention that it would not have been a success if any of the other allied nations had been absent of had collapsed at Normandy.

British forces had been all but obliterated in May 1940 in the Battle of France. What remained of the British Army by this point had been rescued by a fiasco of Royal Navy vessels and a compound variety of small civilian ships who rescued 330,000 personnel. It was on this that the British government could rebuild their Army, which had only just been reconstructed a few years before the start of the war. Whilst still fighting alone in Europe against the Nazi aggressors, the threat of invasion remained a fully realistic prospect, and therefore maximum preparations led to the construction of the new Home Front and a rejuvenated regular British Army.

After the German invasion of the Soviet Union in the summer of 1941, it wasn't long before Stalin drew up a set of demands for western allied involvement in the war, which particularly involved the opening of a Western front. The idea behind this was to divert the German supplied between the East and the West, and therefore freeing up Russian forces who were already struggling against the increasing German invasion. Initially, the western front had been planned to open in 1942 with the Dieppe Raid, although lack of supplies, support and poor commanding and Intelligence led to its complete failure. Stalin, growing more frustrated at the lack of Western urgency at opening a new front, eventually agreed on an allied invasion of France in early 1944 – this was where the foundations for the D-Day assault was initiated.

The plan for the invasion of Normandy had been divided up amongst Britain, the USA, Canada and France, across several beaches or landing points who all had different strategic aims and target points to capture. The overall aim was for them to later regroup inland of the French coast. Britain had been tasked on 'Gold, Sword and Juno' Beaches, supported by Canadian units at 'Juno'.

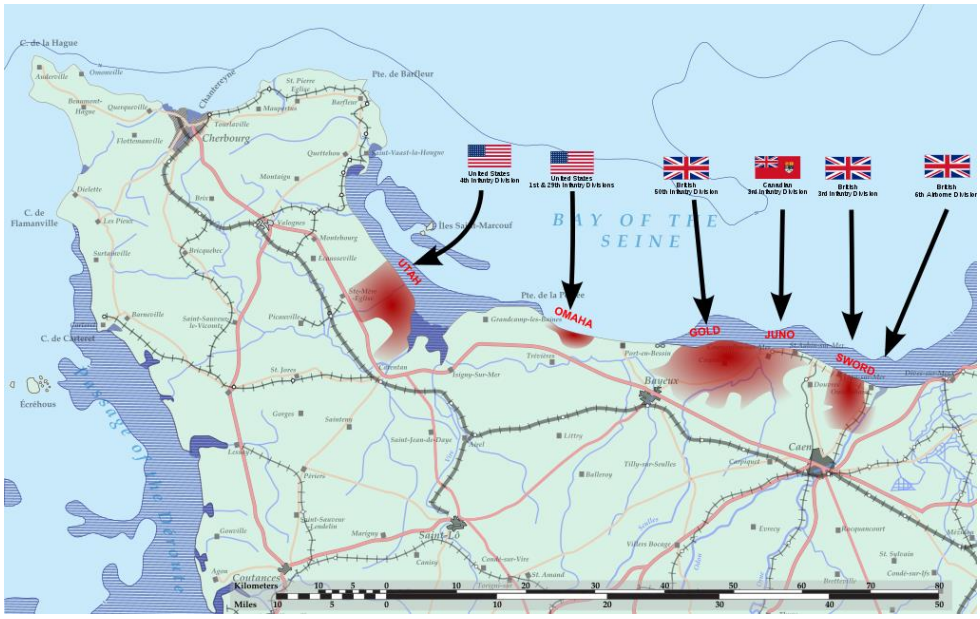


Figure 34 - map of D-Day

The British involvement at D-Day is unprecedented. Whilst it is difficult to imagine what the consequences might have been if one or more of either the American or British units had collapsed at Normandy in 1944, it is also difficult to understand the sheer importance of Britain's presence in the invasion. Statistically, Britain had the largest number of aircraft, troop and armoured units involved in D-Day (when combined with its oversea territory involvement) and covered a large area of beaches compared to the American, Canadian, or supporting Free French units. Overall, 156,000 troops landed on the beachheads. This included 73,000 US troops, 83,000 British and Canadians. By

the end of June, over 850,000 troops had landed through Normandy and were supported by 150,000 armoured units (Britannica S. C., 2018).

British and Canadian troops landed closer to the town of Caen which was the main allied target for their first major liberation. Commanded by Dwight D. Eisenhower, the allied planning on the invasion had been planned to begin on the 1st May 1944, although poor preparations and a fear that the allied plans had been discovered by axis Intelligence pushed the plan to the 5th June. This was once again changed due to extremely poor weather making any journey across the channel an almost suicide mission, and any aerial support would be permanently grounded, meaning even if the allied land units were successful in landing at Normandy, they would be completely blind, without aerial support and the prospect of landing paratroopers, which were paramount to the success of the invasion, would be non-existent.

The operation began in the early hours of the 6th June 1944, initiated by the Royal Air Force across all beaches. Hawker Typhoons carried out anti-mine sweeps along the beach and the shallow coastal waters in preparations for the landing craft. At 0000 on the 6th June, the Naval fleet begin their embark across the English Channel to France, supported by other anti-sea mine craft just ahead.

Sword beach is the first major British landing point where engagements begin. At 0016 on the 6th June, Airborne landings are initiated just a few miles in-land from the location of the planned naval forces. British Paratroopers have been tasked to seize the bridges over the Caen Canal and the River Orne, therefore preventing any German reinforcements from reaching their divisions at Sword and Gold beaches. This task is one which is completed very quickly and with almost no resistance, an example of how the German war effort is already struggling to fight on two fronts. Within minutes, both bridges are captured and are under allied control, both perfectly intact and therefore still of significant use to the arriving naval forces. Reinforcements from the 6th Airborne Division begin parachuting over the bridges at around 0050, and at 0335, bombers from the Royal Air Force provide aerial support to bomb advancing German units who attempted to target the British paratroopers. With the two bridges under British control, it was now down to the remaining invasion force from creating a successful landing and establishing a successful foothold in France. Paratroopers from the 9th Para unit target the German coastal artillery points at Merville, and within an hour, all guns have been disabled and most German units and equipment have been seized or captured. At 0530, ships from the Royal Navy began naval bombardment of the German artillery positions and machine gun pillboxes stretching along Gold and Sword beach, with involvement from HMS Belfast, firing shots just after HMS Warspite at 0523. After 30 minutes of constant bombardment, the main attack force arrived at the beaches, and the first British troops set foot on Normandy at 0600, and further coastal bombardment began to support the landing units at 0645 (Council, Sword Beach, 2019). British landing at Sword beach was immensely successful, and after quick and efficient assaults, Royal Marine Commando units began the second phase of the attack, landing at 0820 and 0840 with No.4 Commando and No.41 Commando. German units attempt to attack and remove the British foothold at the two bridges, and units there are left subject to attacks between 1100 and 2100, however all attacks are driven back. With almost a complete 100% success rate when capturing their objectives, British units that landed at Sword Beach see the withdrawal of the German 21st Panzer Division at the coast and by the end of the day, the foothold had been set. Further Commando units continue to land at the beach, and despite several attempted German counter attacks, had set their positions at the bridges, and at Sword, just on the edge of Caen – the target for British units to reach.

It was a similar outcome at Gold beach to what happened at Sword. Although the entire assault was lacking in airborne support, there was extensive aerial cover from the RAF and intense support from armoured divisions. The main assault began later at Gold beach, at around 0725, led by the 50th

British Division. However, at 0335, the RAF carried out a wide variety of bombing attacks on a range of German targets along the Gold coast. The beach was also supported by the Royal Navy who had landed just a few miles off the shore between Gold and Sword beach, again led by HMS Belfast. Notably, the USAAF also supported small German targets at Gold beach. Royal engineers were amongst the first key troops to land at Gold beach, supported by Churchill heavy tanks and anti-mine units. It was these units who were under the heaviest fire amongst the British units across all three beaches where British units were involved on D-Day. Nevertheless, they continued to push through the heavy German artillery, and within 2 hours, most of the German artillery were out-of-action because of heavy British naval bombardment and USAAF and RAF bombardment. The deep success at Sword beach almost made it obvious that there was to be one small mistake at Gold beach expected. At 0735, the first major landing units arrived on the western half of Gold (*'Jig Sector'* (Council, Gold Beach, 2019)). As a result of the poor weather and the difficulty navigating and therefore causing the slight off-planned landing position, heavy casualties to British troops, particularly Royal Engineers began to mount. Nevertheless, success was returned to the invading British units at Gold Beach on the eastern sector of the landing zone (*'King Sector'*). Accurate landing and positioning of the troop's here meant advancing was made much easier and navigation was accurate, and their advance to the rendezvous point was achieved far quicker and with significantly fewer losses by comparison to Jig Sector. Advancing remained gradual, and with the exception of British soldiers pinned down at La Riviere, the initial stages of the assault was a great success. By 0900, the tide at Jig Sector began rising faster than anticipated and combined with the lack of navigation on initial landing, as well as a lack of exits being established, meant most of the engagement was now behind schedule creating large queues holding back tanks and armoured vehicles and other landing craft at the beach. Nevertheless, advancement continued gradually and by 1100, most of the forces at Jig Sector had landed and established a forefront position. The next target for soldiers at Gold Beach were a variety of coastal villages (Council, Gold Beach, 2019). However, German resistance surprisingly to the allied commanders, forces British advances to be delayed by 2 hours however landing at Gold Beach continue and reinforced British troops arrive at the German engagements. The German counter offensive begins at 0930, and subsequently, No.47 Commandos arrive at the beach only to have most of their landing craft destroyed and sunk along with a large proportion of their equipment and ammunition and therefore, reorganisation becomes the prime part of the morning British offensive to Port-en-Bessin. By the early part of the afternoon, British troops had finally begun their enter to Crepon, two miles inland from Gold Beach, and the advance continues to the far side of the River Seulles. Encounters with German defences were rare, however not absent, although were not often any threat to the British movements. By midnight, Gold Beach had been as successful as Sword, and despite their few encounters and their initial problems on disembarking at Jig Sector, had been completed with absolute swiftness and little issues. The final British advance to Caen could now begin.

The British forces had significantly greater success at D-Day when compared to the US allies. The American forces had been tasked with landing slightly further West at Omaha and Utah beaches. Whilst Utah beach was successfully captured with relative ease and little discombobulation, Omaha beach suffered perhaps the worst tragedy of the Normandy Campaign between June 1944 and August 1944. A missed landing point at both Utah and Omaha as well as late timing meant the German occupiers of France were well prepared and expected the US landing and combined with poor commanding and little organisation as a result of panic produced by the miscommunication and poor navigation meant a great number of American troops were killed. Even though Omaha and Utah took far longer to capture and install a foothold at compared to Sword and Gold Beaches, they were both captured by the evening and eventually began their trek inland.

Overall, a total of 129,400 allied troops landed on the Normandy beaches on the 6th June 1944, and by the end of June, 858,000 allied troops and 150,000 allied vehicles had landed at Normandy to begin the assault to Caen and eventually Paris. It is estimated that around 4,900 soldiers would be taken as casualties, of which just 1,030 were British. This therefore demonstrates the significant success the British units had at D-Day in Normandy in June 1944 and outlines how imperative the British presence in Operation *'Overlord'* was.

Chapter six: the Army in the Pacific - Burma

The Burma was a campaign fought in the Pacific theatre in the British colonial territory of Burma primarily fought by the British colonial forces and supported by US forces.

The British overseas territory of Burma, now Myanmar, was first invaded by Japanese forces in the spring of 1942. A long period of neglection for the defence of Burma by the British led to a swift and instantaneous capture of Burma much like what the Germans had done across mainland Europe in 1939-1940. Instantly, it was set out that Britain would support the recapture of Burma and the removal of any Japanese presence in the British colonial territories in the Pacific. Japan had set out a key ideology that incorporated the capture of many Pacific islands surrounding mainland Japan, including the Philippines, parts of China, Burma, and many other US oversea territories which were mainly occupied by US military forces (subsequently leading to the attack on Pearl Harbour as an attempt to remove US threats to the planned Japanese attack on Midway).

Japanese forces began the invasion of Burma in March 1942, and by the middle of the month, had captured Rangoon, the capital. British forces initially attempted to resist the Japanese invaders, however in a year that was already going unfortunately planned for allied forces, they eventually resided in a retreat, and had cross the Indian border by the 15th March 1942.

Upon the British entrance to India, plans were almost instantly initiated to recapture Burma, however little progress was made throughout 1942. Conditions in the area were appalling, near to being completely inhumane. Little to no action subsequently happened throughout 1942 as plans were made between London and those stationed across the Indian-Burmese border to recapture the territory. Several attacks were mounted up until February 1943 which resulted in high casualty rates and frequent retreats. However, in early 1943, the 77th Indian Infantry Brigade initiated Operation *'Longcloth'*, involving their stationing miles behind the Japanese lines (Defence, 2015); the Indian Brigade was also supported by members of the RAF Logistics and RAF Regiment. A total of 3000 soldiers from the RAF Regiment, RAF Logistics, Gurkhas, and regular British Army were involved in Operation *'Longcloth'*. The main objective of this unit was to sabotage railroads and private lines connecting major areas of Burma which therefore supplied much of the Japanese units stationed now in central and Eastern Burma. Those who took part in the operation were nicknamed the 'Chindits', and whilst the operation appeared to create little set back to the Japanese war effort in Burma as most of the railroad damage was swiftly repaired, it did create a large and much needed morale boost both for the British public in the United Kingdom as well as those stationed at the Indian border.

The concept of the operation was formatted and subsequently commanded by Major-General Orde Charles. An adapted Jungle commander for the British military, he believed a major tactic which would effectively displace the Japanese in Burma was 'Long-Range Penetration' (LRP). The LRP would then focus on destroying and disrupting enemy supply lines and completely rely on resources delivered by air (thechinditssociety, 2010). The process yielded next to no results immediately after the events, however its involvement and process in Burma is undoubtedly a major factor that would

eventually lead to the destruction of the Japanese forces there. After a period of intense training carried out in the blasting heat and severe conditions of India, seven columns of men were formed, consisting each of 400 men. Casualties were high in the entire campaign; several factors led to this. Not only were the Japanese forces battle-hardened and intense in an environment not too dissimilar from a next to normal life in Japan, but the natural environment was too much for the British troops. Starvation from lack of supplies through the ineffective air drops along with disease in a barren land led to a quarter of troops in each column at least to be lost by the end of the operation. The 14th Army was soon developed in mid-1943 to support and eventually take over from the forces stationed in India and those taking lead of the '*Longcloth*'. However, it was the original operation in early 1943 which subsequently led to the Japanese to carry out attacks on British military Forward Operating Bases (FOB) at the India-Burmese border in March 1944 which would subsequently initiate the 'beginning of the end' for the Japanese in Burma.

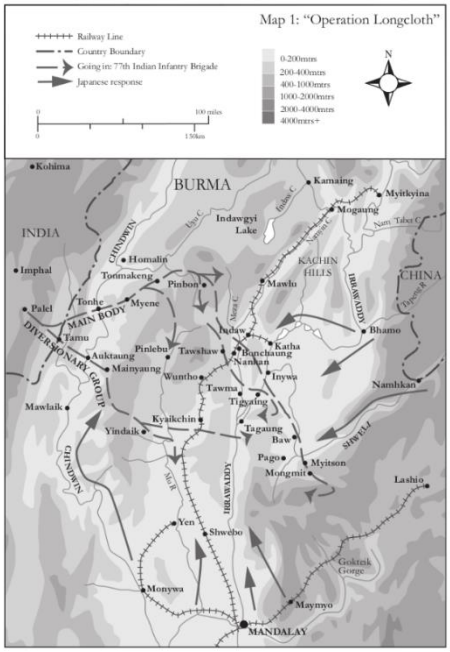


Figure 35 - Map of Burmese attacks

The Battles of Imphal and Kohima between 8tH March and 18th July 1944 were two of the most gruelling and devastating campaigns of the Second World War and perhaps the most devastating campaigns for the Japanese in the Pacific. The new 14th Army in India had been stationed there for less than 5 months before the attack. An over-emphasised and conceited Japanese army who had occupied Burma for almost two years by the outbreak of the Battle of Imphal and Kohima attacked the British bases in India in hopes to destroy British presence in surrounding Burmese territory thus annihilating any threats to their advance across the Pacific. The new South East Asia Command (SEAC) which had been formed in 1943 commanded by Lord Mountbatten, would form the basis of the engagements between the British and Japanese forces between Burma and India. The initiation of the conflict began when the Japanese 15th Army manoeuvred into the Indian border with the aim of intercepting and blockading British supplies to the military FOBs on the Imphal Plain hoping it would stall a British plan to invade Burma. With Japanese plans to advance further into India, by attacking the supply chains to Imphal Plain would also prevent air supply routes to China, allowing the Japanese to install air attacks over India as a subsequent result of the lack of aerial cover the RAF could provide as well as creating a base in an advantageous position to India's border.

An attempted diversionary force was place forward of the Arakan however it was swiftly defeated and eventually the forces at Imphal and Kohima were surrounded, vulnerable to the British 14th Army (Museum N. A., 2020).

The Battle of Imphal was the first of the two devastating strikes. A major city surrounded by a mountainous region; it was the main British base. Japanese forces planned to use the 15th Division to strike the base protected by Scoones 4th Corps (Museum N. A., 2020). The entire attack would crumble if the 4th Corps was not destroyed quickly and the supply chain to the base disrupted. Whilst the 15th Division targeted the base itself, the 33rd Division located just south of Imphal would attack

the Indian 17th Division whilst the 31st Division would surround Kohima, south of Imphal, and prevent any support from reaching the major British base.

At first, the Japanese plan began to work perfectly. The 31st Division quickly surrounded Kohima and cut off the Imphal-Kohima Road which was the only direct link between the two stations. The Indian 17th Division was almost surrounded at the same time as Kohima, all on the 29th March 1944. The town was quickly isolated and by the middle of April, the central ridge remained the only area to be captured. With no way to reach Imphal without running into the Japanese forces, the British forces began some of the most brutal close-combat engagements. Immediate dispatchment of the British 2nd Division was ordered by Mountbatten from India to Dimapur where they joined with the 33rd Division to send support south to Kohima, where they arrived on the 14th April. The Battle around Kohima continued into the middle of May, where eventually the Japanese forces lost morale for their fighting and their battle strength began to deplete. Finally, after a gruesome period of fighting, the 33rd Division finally linked with the 4th Corps in Kohima on 22nd June 1944. Japanese forces continued to brutally attack Imphal however the Indian Division held firm on the external defences for 4 weeks. All Japanese attacks eventually failed, and their retreat from their former advantageous position and moved further inland to Burma. The entire consequence of their campaign is perhaps the biggest military defeat for Japan in the entire Second World War. A plan that at first seemed unlosable soon turned out to be the biggest underestimation of British and Indian force as well as a complete underestimation of their own defensive power. It was the Japanese defeat at Kohima and Imphal which eventually led to the British victory in the regaining of Burma as the British offensive moved into northern Burmese territory. In a similar format to the LRP concept in 1943, British forces followed a systematic process of aerial support and logistics. Eventually, “the 15th Corps took Akyab in the Arakan, while 4th and 32nd Corps won bridgeheads across the River Irrawaddy. After fierce fighting, Meiktila and Mandalay were captured in March 1945” (Museum N. A., 2020).

The outcome of the battle was devastating for both sides, but even more so for the Japanese commanders. The initial strength of the Japanese 15th Division was 85,000, however by the end of the battle, 53,000 had been killed or registered missing. For the British and Indian forces, 12,000 casualties at Imphal combined with 4,000 lost at the defence of Kohan meant around 16,000 were killed or declared missing. A significantly lower number than the Japanese, but still a large proportion of the new 14th Army.

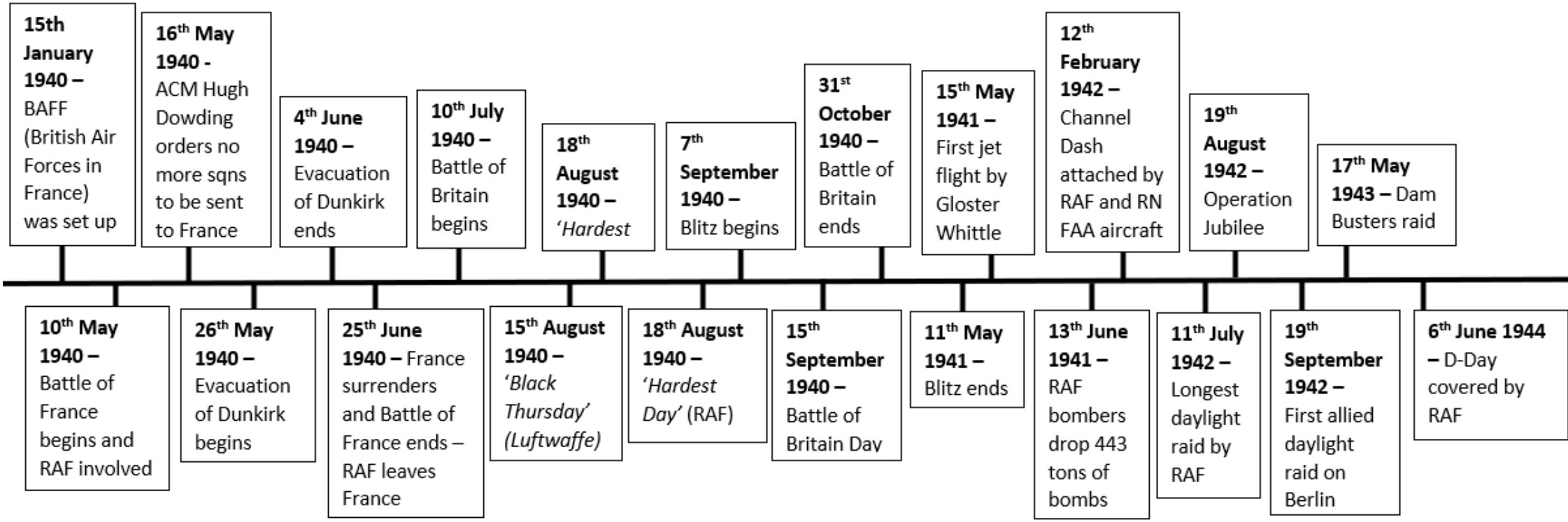


British Involvement in the Second World War –

Part 3: the Royal Air Force – 1940 - 1945



Timeline of major events for the Royal Air Force, 1940 - 1944



Introduction:

The RAF was first formed on the 1st April 1918 by combining the Royal Naval Air Service and the Royal Flying Corps to form the world's first independent air force. The Royal Air Force today is one of the most powerful and elite military forces in the world. During the Second World War, it was arguably the most powerful air force in Europe, and an appropriate opposition to the newly formed Luftwaffe. The role of the RAF during World War Two varied greatly, with different sections carrying out different roles across a variety of different theatres. The RAF would then pave the way for the development of the jet engine, being the world's first military unit to begin testing of the Frank Whittle jet engine and entering one of the first operational jet just after the Luftwaffe's' Me-262 in mid-1944.

Chapter One: France and the Evacuation of Dunkirk

The RAF was first placed in Europe before the invasion of France in May 1940. The RAF was first posted to Northern France to support the French Air Force (*'Armée De L'air')* on the 15th January 1940, forming the first overseas RAF group known as the *BAFF – 'British Air Forces in France'*. The BAFF was then further developed into the *'Royal Air Force Component of the British Expeditionary Force'* and into the *Advanced Air Striking Force (AASF)* which would primarily focus on operations for bomber command. Initially, 10 squadrons of Hawker Hurricanes and Fairey Battles were stationed in France along with the AASF which faced little action in attacking German ground units and German factories with the British light and medium bombers stationed in France. Although soon after the period of the Phoney war ended and the German Wehrmacht invaded France around the Maginot Line in Northern France, the air battle in Europe between the Luftwaffe and the RAF would begin to show its threat to Great Britain.

By the time Germany had begun the invasion of the lowland countries, some 680 fighters and 392 bombers of the RAF were now beginning to see aerial attacks by Luftwaffe fighters, light bombers, medium bombers, dive bombers and gliders. The disparity of the situation is demonstrated when the RAF was forced to operate its Westland Lysander aerial reconnaissance aircraft as a light bomber, as British bombers were quickly implemented into action against the advancing German army. On the 10th May 1940, the first day of the invasion of France, the RAF operated 32 light bombers, with a total of 18 which were lost (Marsh, 2020). On the 17th May 1940, 12 Blenheim bombers were operated over Norther France in an attempt to prevent the German raiders from capturing further inland of France, however after struggling against 15 Messerschmitt Bf-109E fighters, only one of the 12 RAF bombers were able to make it back to their airfield. Whilst it demonstrated to the Luftwaffe the presence of the RAF and therefore the requirement for them to take out the RAF before invading England, it also showed the RAF the sheer strength of the Luftwaffe in aerial combat. Up until this point, RAF fighters had not encountered German forces, giving much needed time to evaluate strategic initiatives with dogfighting the German counterparts.

Wilfred Davies, a British bomber pilot of the Blenheim group on the 17th May 1940, reflects on what his experiences were that day after being shot down by Bf-109 fighters: *"We were hit by flak and burst into flames and placed our machine nose down to fly westwards, hopefully to crash on the British side of the lines. We were attacked again by Messerschmitt's whilst we were on fire…tracers were going over my head"*

"Whilst I was hose-piping them with my gun, we crashed through a lot of trees into a bog. I was unconscious; when I came to, I had a ring of Germans around me and I was about two or three feet in

the ground. They hauled me out with severe bruising all over the body, and surprisingly only a broken finger. The other two were killed; hardly any evidence of bodies." (Marsh, 2020).

Figure 36 - Bristol Blenheim Mk.I - Henry Measures

After the Wehrmacht had sliced through northern France and began cutting off parts of the French and British armies stationed in the north, the RAF was forced to retreat. Stationing in the west coast of France simply was not a viable option; the speed at which the German army was marching through France and the rest of Europe was unsuitable for the RAF to stay in France meaning they returned to the South Coast of England. Originally, 16 Squadrons of RAF aircraft had been sent to France with a further 4 operating from the Southeast coast travelling across the Channel to provide localised support and defensive mechanisms. However, by the time the Wehrmacht forces approached the coast of France, the RAF was forced to retreat. Fighter Command paid just as much as Bomber Command – whilst the RAF bombers were at the front line during the forward movements of the German army, the RAF fighters paid significantly when attempting to alleviate pressures on the bombers from the German fighters. Between the 8th and 18th May 1940, 250 RAF Hawker Hurricane fighters had been shot down which was an average of 25 aircraft per day, a statistic that RAF Fighter Command simply couldn't afford to continue (Marsh, 2020). This was not a necessarily surprising loss ratio; the German Luftwaffe had been strengthened during the Spanish Civil War in 1936-38, which gave pilots the opportunity to practice and dismiss or accept suitable tactics. The RAF on the other hand, whilst had arguably slightly more effective fighters compared to the Luftwaffe based on data, the pilots had less skill and less experience - an imperative factor which meant the Luftwaffe was able to overrun the RAF fighter aircraft no matter the strategic advantage the RAF Spitfires and Hurricanes had over the Bf-109s and Bf-110s. By the time the RAF was supporting the evacuation of Dunkirk, there were only 331 available aircraft operationally stationed within range of France from England. The disparity of the situation is adequately outlined by this; Air Chief Marshal Frederick Rosier from No. 229 Squadron describes events on the 17th May 1940: *"That afternoon, we flew to Manston where we met up with a flight of No. 56 Squadron. Led by a Blenheim, we flew off to Vitry en Artois, an airfield not far from Arras. As soon as we landed, a Wing Commander rushed up to me and said, 'Do you have any fuel left?' and I said 'yes'. He said, 'For god's sake, keep your engines running, there are 40 plus bandits coming this way!' So we kept our engines running for a time. [There were] no further instructions... nothing on the radio at all"* (Marsh, 2020).

By the time the BEF and remainder of the French Army had been pushed to the English Channel, the morale was extremely low, and much of their weaponry had been left behind in the 'dash' to the coast. In attempt to 'feel better' about their situation, the BEF would blame the RAF and claim 'their absence' is the cause of the ultimate demolition of allied control in Northern France. Whilst this is not necessarily true, the RAF would become subject to constant abuse from the BEF and eventually the Royal Navy, who for the most part, claimed full responsibility for the physical evacuation of the allied forces from Dunkirk.

Approximately three different naval routes were created between Northern France and the Southeast coast of England to ensure maximum efficiency when transporting troops between the two countries. These different routes all had several different risks: from the Luftwaffe, German submarines and ships and from coastal bombardment points now set up along Northern France. Many ships were provided by the Royal Navy in order to evacuate as many soldiers as possible. This included around 40 destroyers, minesweepers, several torpedo boats and other craft including cruisers and corvettes. Whilst the Navy would provide much of the heavy lifting in terms of physical support provided between the Royal Navy and BEF, they would've been completely useless if there was no air support to prevent German bombers and torpedo aircraft attacking their shipping. The RAF would ensure throughout the nine days of the evacuation, that not only the BEF would be provided with aerial support, but also the Royal Navy across as much of the three routes as possible. In total, the Royal Air Force would carry out 171 reconnaissance, 651 bombing and 2,739 fighter sorties. Total losses were 177 (Quinn, Miracles and myths: The Dunkirk Evacuation – Part 1: Where was the RAF?, 2020). This source demonstrates that whilst the Royal Navy was one of the most effective military forces during the Dunkirk evacuation due to their physical contribution in terms of the number of soldiers successfully returned to England, their success would have been significantly limited if the RAF was incapable or not present to provide air support. Therefore, whilst it does not specifically demonstrate the claims of the BEF against the RAF, it clearly outlines that the RAF was present at Dunkirk, which automatically renders any other claim by the BEF as false.

The source of combat files or records produced and affiliated to the Imperial War Museum clearly outlines, without subjectivity, that the RAF was at Dunkirk. Following the retrieval of RAF Squadrons from France, new stations were set up along the Southeast coast of England, including RAF Hawkinge, Biggin Hill, Lympne, Manston and others. All surviving pilots from France, and those already stationed in the Southeast were ordered to provide air cover for the retreating troops at Dunkirk and Calais (until Calais fell and orders were removed to provide air cover there). Whilst the RAF had been seen at the Siege of Calais, providing supplies to remaining troops and carrying out low-level attacks on German Artillery standings, claims were still made that the RAF were not present and their cover was not adequate to provide any real protection against ground soldiers and naval ships. But despite all claims, the RAF had designated 16 squadrons to the evacuation of Dunkirk, and on the first day alone, 287 fighter sorties were flown over Dunkirk. However, the support provided on the 26/27th May 1940 was limited to night operations due to very bad weather which grounded many Fairey Battle and Hawker Hurricane Squadrons stationed in the Southeast of England. Thick smoke from the past few days of Luftwaffe bombardments also made aerial visibility from the ground extremely poor, rendering it almost completely impossible to state whether any British aircraft at 4000 feet plus were present, even more so in the cover of darkness. This would therefore lead to BEF and Royal navy soldiers to conclude that the RAF were not present - one thing they could use as an excuse as to their failed attempt to maintain control over the Port of Calais and possibly to cope as a reason their fellow servicemen had been slaughtered during its defence.

One combat report from 235 Squadron flying Blenheim bombers on the 27th May 1940 stated that they "approached Dunkirk at a cruising altitude of 4000 feet and spotted a total of 18 unidentified enemy aircraft at 10,000 feet." (Archives R. A., AIR-50-310, 1940). Weather reports also show that during the start of the Dunkirk evacuation on the 27th May, weather was 'unusually quiet' which allowed for air operations to continue for both the Luftwaffe and the RAF; clear weather and an absence of rain allowed for full RAF operations to be carried out.

A second combat report originating from the Royal Air Force is depicting an encounter with 19 Squadron RAF who flew Supermarine Spitfire Mk.Is during the evacuation. Their report states:

“cruising altitude during the sortie was 10,000 feet, and a maximum engaging altitude of 16,000 feet. The engagement was carried out at 2000 (8 PM), with one enemy aircraft confirmed to be shot down with a loss of zero friendly aircraft.” (Archives R. A., AIR-50-10-37, 1940). This demonstrates that not only was the operation an example of a K:D ratio of 0:1 but also that the RAF were present throughout the day into the cover of night, causing any visibility left from the ground to completely dissipate. The combat records are a source that provides a significant amount of information.

They easily justify that the RAF were at Dunkirk, from the original pilots who flew the missions. What they fail to note however, is the regularity of the missions. Combat records are also slightly difficult to interpret – whilst the Luftwaffe may have been bombing Dunkirk with squadrons of 50 aircraft, the RAF may only shoot down 3 of these aircraft from an allied squadron of 9 aircraft, with zero friendly losses. Numerically, this may be interpreted as a failure of the RAF to successfully defend the beaches and allied areas around the Dunkirk region, however on behalf of the Royal Air Force, this is a regular, and accurate representation of how aerial combat is carried out. Victories such as those stated by records from 19 Squadron, are an accurate way to demonstrate that the RAF were at Dunkirk and were providing effective aerial support.

The Royal Navy, they began using larger ships in order to evacuate larger amounts of troops at any one time. On the 27th, this included one Cruiser, eight destroyers and 26 other Royal navy seacrafts. The Admiral also sent an emergency call-out for any smaller ships that could be used by Royal Navy crew that could hold any number of soldiers in order to maximise the number of men they could return to England in one operation. No casualties were suffered on behalf of the Royal Navy on the first day. Although, it was becoming more apparent that rescues directly from the beaches were increasingly more inhospitable as the wind began to worsen during the 28th of May. Loading by the beaches created treacherous environments for the soldiers attempting to board ships as well as the destroyers and medic ships trying to moor close to the beach. Despite all the supposed failures of the RAF as claimed by the BEF, around 7660 soldiers had been rescued on the first day of official operations.

Upon Churchill's announcement of ‘Operation Dynamo’ being put into full action, he now wanted the rescue of 45,000 men within two days as intelligence predicted the currently halted German forces would manage to reach the beaches by then. What the BEF and Royal Navy continued to deny and fail to recognise was the effort the RAF were committing to during the entire Operation. On the second day, 28th May 1940, weather reports showed that rain had set in over much of the English Channel, which worsened visibility for anyone on the ground. Luftwaffe aerial assaults continued throughout the day as Goring could not afford to lose one day out of the bombardment on the coastal targets.

A second RAF combat report from 19 squadron states: “at 15,000 feet at 1000, the same pilot shot down a single German Messerschmitt Bf-109 aircraft” (Archives R. A., AIR-50-10-37, 1940) with a second day of zero friendly casualties. In total that day, 16 RAF Squadrons were actively flying over all Royal Navy vessels to provide air supremacy, and overall, 38 German Aircraft were claimed at a loss of only 14 RAF Aircraft, one of the highest kills to death ratios seen by the RAF so far in the war. Yet due to bad weather and increasing fires creating thick smoke, for the ground forces, this day was a second very useful attempt to state that the RAF were not at Dunkirk. Although combat reports completely deny these claims with some of the greatest victory ratios seen by any of the allied forces throughout the almost year-long war. Air cover was being sufficiently provided, yet BEF and RN sailors would exacerbate these claims which would soon become incredibly harmful to any RAF aircrew. Making the entire operation substantially more difficult was the Belgium surrender, therefore leaving a large, uncovered area to the East of their current loading point. As a result of the

gap now left by the Belgium Army, the RAF ramped up their number of regular sorties flown. Furthermore, weather reports from the 28th of May 1940 demonstrate that it was near impossible for the Luftwaffe to carry out any dive-bombing attacks on the beaches. Strong winds, rain, low clouds and therefore poor visibility meant that the Luftwaffe was limited. Yet the RAF flew 11 patrols over the Dunkirk region, 321 total sorties and claimed 23 aerial victories with a loss of 13 aircraft. As such, over 17,000 BEF soldiers were returned to southern British ports, one of the largest number of soldiers rescued throughout the entire operation so far. This demonstrates that the RAF continued to play a consequential role throughout the evacuation so far, already putting aside any claims "where was the RAF?...We never saw a fighter!" (Thompson, 2008).

On the 29th of May 1940, the evacuation was beginning to reach its peak of operations. The Royal Navy had continued to send substantial amounts of naval vessels and other seacraft, and the BEF had now reached significantly higher totals of soldiers rescued. Yet it is also renowned for causing levels of damage to the Royal Navy. Whilst just under 48,000 BEF soldiers were removed from the beaches, the Royal Navy took a large brunt of the Luftwaffe's force, catching up on a day of poor attacks as on the 28th of May. The Royal Navy destroyer HMS Grenade was sunk, and two other destroyers, HMS Jaguar and Verity, were badly damaged. Two other British Trawlers were also disintegrated during attacks. Further Naval losses also include the passenger steamer SS Fenella as well as HMS Crested Eagle, SS Lorina and SS Normannia. In total, naval losses totalled 7 sunk and 3 badly damaged, whilst nearly 3000 BEF and remaining French soldiers were lost. This provided the Royal Navy sailors and Admiralty and the BEFs Commanders and soldiers to continue to question the involvement of the RAF throughout operations. Combat reports continued to state that the RAF had continued efforts throughout this, perhaps the worst day for the Royal Navy and BEF, yet operations had not been targeted adequately. The Luftwaffe's attacks totalled five and only two were specifically targeted by the RAF. In total, the RAF lost 16 fighters over a total of nine patrols, contrasting to 11 German Ju-87B Dive-bombers were destroyed.

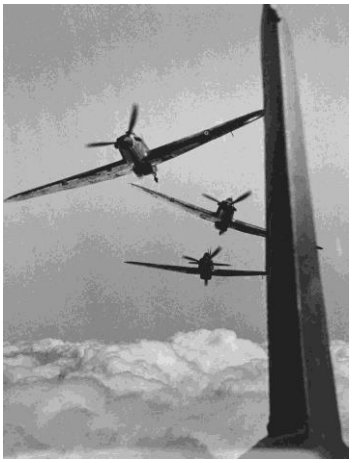


Figure 37 - RAF Hawker Hurricanes

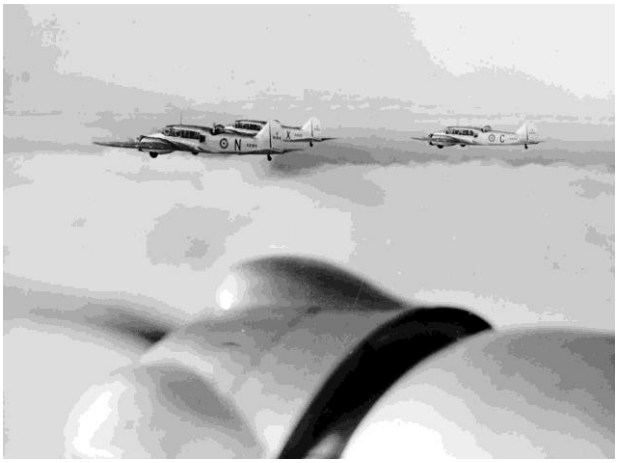


Figure 38 – RAF Avro Anson aircraft over Dunkirk

What Intelligence had failed to uncover was that the German Panzer divisions had been ordered to halt their advance to allow the Luftwaffe to continue the complete abolition of the British forces left at Dunkirk. This conjoined with the new tactic of loading troops onto ships at the mole, a small pier-like structure at the Dunkirk beach, gave the British troops significantly greater efficiency to depart. However, it would also be a plan that would only be effective if they were provided with sufficient air cover. This was necessary in order to prevent any Luftwaffe aircraft from bombing ships at the Mole and sinking them there. Any ship sunk whilst docked would prevent any other ships from loading at that point, therefore decreasing their efficiency and increasing their vulnerability. By the

30th May 1940, Churchill received intelligence from British forces stationed in France during the evacuation stating that all British forces were now behind the defensive line created by the remaining French forces a week earlier. This meant that all British soldiers were now out of range from German Panzer divisions as the marshland between the British and Germans rendered any tank incapable of crossing. However, they were still susceptible to German aerial attacks, meaning the use of the RAF was not yet over. The harbour at Dunkirk had been forced out of action as a result of Luftwaffe attacks, however Senior naval commanders now ordered troops to alternate ship loading from the beaches to a concrete wall known as the 'Mole'. This would enable the soldiers to increase efficiency when loading onto ships at any one time and would allow ships to load further away from land away from the danger of washing up onto the shoreline.

Nevertheless, claims made by the BEF continued to roll-in, stating the Air Force were still not present and all evacuation efforts had been left to the Royal Navy and the BEF themselves. A British Army Major General exclaimed: "For all the good you chaps seem to be doing over here, you might just as well stay on the ground" (Levine, 2017). This demonstrates that whilst the RAF were continuing their own air operations, particularly from the Southeast coast of England, the British Army continued to claim that the absence of the RAF was the reason for the substantial levels of German Air Raids over the beaches of Dunkirk. One factor that demonstrates the inequality between the Royal Navy, BEF and RAF was outlined by a Royal Air Force Officer from 54 Squadron after returning from France. His Officer Commanding recalls the pilot arrival back from Dunkirk. "Three days later, according to Leathhard, Allen showed up in the 54-squadron mess wearing bits and pieces of naval uniform." (Levine, 2017, p. 252). This supports the statements made by RAF pilots who flew over Dunkirk during May 1940. It was not a rare sight, or an unorthodox task carried out by RAF pilots during the Dunkirk evacuation in 1940 to have to wear Royal Navy or BEF uniform in replacement of RAF uniform. This source is a particularly useful and historically accurate way of outlining the criticism that was received against the RAF. Typically, RAF pilots who had been shot down over Dunkirk would be refused access to British ships in retaliation against the RAF. The constant segregation made against the RAF and the widespread rumours that stated 'the RAF are not here' meant the only act the other military branches felt was necessary was to refuse the airmen a trip back to Britain. As a way around this, the Air Force was reduced to having to wear the uniform of soldiers and sailors who had been KIA at Dunkirk. Not only was this tormenting for the pilots and aircrew of the RAF, but it is an extreme task that was carried out against the RAF in retaliation and holding the RAF responsible for the loss of those killed in France. The following four days of 'Operation Dynamo' between the 31st of May and the 3rd of June 1940 were not varied. On the 31st May, a series of low clouds and poor weather kept the Luftwaffe scarce from the Dunkirk coastline. Yet the RAF continued to carry out patrols. On the 31st, 9 patrols were completed with zero aircraft lost. A pilot from 111 squadron RAF accounts the day of events. His AIR-50-43-19 file from the 31st of May 1940 recalls a flight of around "35 German aircraft, mainly built up of Me-109s... carried out at around 1955 hours, 3 miles East of Dunkerque." (Archives R. A., AIR-50-43-19, 1940). He also then records a loss of one German aircraft with no friendly aircraft lost. Whilst the BEF and Royal Navy continue to claim no RAF presence, RAF combat records and intelligence proves that their presence was unprecedented, and even when the Luftwaffe had been limited due to poor weather and visibility, the RAF continued to complete aerial sorties.

On the 2nd of June 1940, two BEF soldiers recalled events at Dunkirk. One of them in particular exclaimed the memory of seeing a RAF Reconnaissance aircraft overhead, as well as a second soldier recalling how one of the aircraft opened fire on a German tank less than 20 yards away from his position. BBC Archive interview 'RAF fighters dispatched to Dunkirk' is an interview from a US reporter visiting an RAF airfield in the Southeast of England. He recalls RAF pilots repeating similar

conversations: “there were 10 of us and 20 Germans were destroyed but they were still anxious to go again.” (Murrow, 1940). He also remembers one pilot claiming he will be back in time for tea. “His voice was loud and flat, and his human form was wet...he was shot down over Dunkirk on the first patrol of the morning.” (Murrow, 1940). This source is particularly useful when investigating the activity of the RAF during the evacuation of Dunkirk as it is a first-hand account from a foreign and neutral country news reporter describing what he saw and heard whilst the RAF were active over Dunkirk. He also includes interviews from the pilots who had been involved in the evacuation so far and describes the outcome as a result of the traumatic events they had endured. A second interview from the BBC archives is titled ‘BEF Experiences’. It includes interviews from four different BEF members who had a similar encounter with German armoured divisions and troops whilst enroute to Calais and Dunkirk recorded on the 3rd June 1940. He recalls the initial effectiveness and success of the British trucks transporting food and fuel to the front lines. However, he also recalls the presence of the RAF, which further demonstrates a first-hand account of the RAF being active over Dunkirk. “We saw multiple reconnaissance planes, and one eventually opened fire on the German truck 20 yards away which drew his attention.” (Archives B. B., 1940). These sources are extremely useful in the consideration of the RAF. However, whilst they do outline the presence of the RAF at the Dunkirk and Calais operation areas, they do not outline the overall effectiveness and success of the RAF, nor do they note how active the RAF had been over Dunkirk. Overall, neither sets of interviews outline whether the RAF was capable of providing substantial support or were completely irrelevant in the evacuation. Whilst one BEF soldier outlines the memory of seeing an RAF aircraft, he does not mention whether they provided any support to him or any other BEF soldiers.

In conclusion, the RAF were able to provide significant aerial cover for the evacuating troops, and claims made by the BEF and the Royal Navy were significantly unfair, with almost zero consideration for the reasons why the RAF were not visibly apparent at the operational area. Nevertheless, it is unprecedented when considering the absolutely imperative support of the RAF during the evacuation, and without the RAF’s air cover, the success of the evacuation wouldn’t have been as significant as it was.

Chapter Two: The Battle of Britain

The Battle of Britain is perhaps the greatest moment in British history; the only part of the Second World War and in the modern era where a conflict has been fought entirely in the air. The conflict which spanned from the 10th July 1940 when Luftwaffe air raids began to reach a new intensity, lasted over three months, ending on the 31st October 1940. During the Battle of Britain, large-scale night attacks in a period known as The Blitz, lasting from 7th September 1940 - 11th May 1941 also took place. Initially, the Luftwaffe’s bomber force primarily focussed on destroying the RAF and partially the Royal Navy to secure air superiority for a full-scaled naval invasion of the Southeast coast of England in what was codenamed, ‘*Operation Sealion*’.

During the Battle of Britain, there was a variety of different aircraft and aircraft models which were part of the Battle of Britain.

The RAF used:

Supermarine Spitfire (Mk.Ia - Mk.IIa)

Hawker Hurricane (Mk.I)

Boulton Paul Defiant

Bristol Blenheim (IF, JVF)

Bristol Beaufighter

Gloster Gladiators (only 247 Squadron)

The Luftwaffe used:

Messerschmitt Bf/Me 109 (El, EIB, E3, FA,	**Dornier Do 17 (M, P, N)**	**Do 18 D-1**
FAB, FAN, E7, E7N, El)	**Heinkel He 111 (112, 113, H4 PI)**	**Focke-Wulf Fw 200 C-3**
Messerschmitt 110 (C4, C4B, C5)	**Junkers Ju 88 (Al, A5)**	
	Ju 87 (131, B2)	

Whilst the whole of the Battle of Britain was an increasingly important event, with every day playing a pivotal role in the overall outcome of RAF victory, there are three key dates which demonstrate the effectiveness of the RAF at the Battle of Britain. Each of the three dates specifically highlight the tense environment of the sky's over England and the English Channel in the summer of 1940, and outline the especially skilful ability of the RAF pilots against the threat of the Luftwaffe.

August 1940. A month into the Battle of Britain, and initially it appeared that the RAF were losing the battle. The Luftwaffe's greater numerical strength over the Royal Air Force meant they were constantly overwhelming UK air space in both the Southeast of England as well as the North [by Luftflotte 5] who were stationed in German Occupied Norway. However, by the middle of August 1940, it seemingly appeared that the tide of the battle may turn in favour of the RAF, whilst German reconnaissance reports stated that the RAF were losing more aircraft and subsequently more airmen than what was actually being faced in reality in Britain. Succeeding the reconnaissance reports, Hitler and Herman Goring, Head of the Luftwaffe and Hitlers 'right hand man', began a change in tactics to defeat the RAF, believing they were on the verge of total annihilation. The first outcome of this new controversial change to the German aerial operations was realised on the 15th August 1940, however the initial lead up to this first major date in the conflict began the day before.

14th August 1940: Luftwaffe operations were seriously disrupted by extremely poor weather on the 14th August. Whilst initial weather reports in the early morning stated weather was to clear up by the night, it was initially consumed by drizzle, low cloud and overall poor visibility, significantly damaging the Luftwaffe's plans. The shattering weather meant the day was filled with scarce and insignificant air raids that posed no real threat to neither the RAF nor British civilians (society B. o., 2007).

Cloud in the morning of the 14th August lay at just over 2000 feet; pilots found themselves waiting for the air raid that didn't come, and the scramble that was never ordered. One squadron of Hawker Hurricanes had been issued operationally at 0645 on that day, and Sgt Atkins was shot down by gunfire from German medium bombers at 0700 and was rescued from the sea soon after (society B. o., 2007). All appeared to be quiet after this attempted raid through the poor cloud, until the cloud began to disperse by 1100, and British radar detecting an incoming German raid by 1140. Four squadrons from three different south-eastern airfields were ordered to standby at readiness; 615 Squadron from RAF Kenley, 32 Squadron and 615 Squadron from RAF Biggin Hill and 65 Squadron from RAF Hornchurch, scrambling a mix of Supermarine Spitfires and Hawker Hurricanes (society B. o., 2007). The day that was to unfold would take an immeasurable toll on both the Royal Air Force and the Luftwaffe, but overall lead to one of the first major victories of the Second World War finally in favour of the allies. Throughout the day on the 14th August 1940, RAF pilots spent most of the morning sitting around; by the afternoon, they spent most of their time darting around the sky. At 1150, clear skies that had eventually prevailed over South-East England and a large formation of enemy bombers appeared on radar. Squadrons were scrambled at Biggin Hill, Kenley and

Hornchurch following directives from 11 Group Fighter Command HQ at RAF Uxbridge. The large formation consisted of a variety of German Ju-87B dive-bombers, with Bf-110C ground attack variants escorted by Bf-109E fighters. By the time the RAF arrived, there were over 200 aircraft in the sky over Dover and Southeast England.

"*In this area, the Luftwaffe were little more distant from their bases than the RAF squadrons, and for once were prepared to mix it instead of making the one pass and then diving for home, waiting for the red-light blink warning of fuel shortage. No. 615 Squadron lost two pilots, and three of 32 Squadron's pilots, unhurt themselves, made forced landings, while JG26 and JG52 each lost a 109 in the mêlée"* (Richards, 1989).

Throughout the day, several RAF Squadrons were involved in intense dogfighting over the coast of Dover. Two major Luftwaffe air raids swarmed over from the coast of occupied France, the second being detected by British radar at 1630, direction and possible target: Southampton. Primarily formed of German Heinkel He-111 bombers Junkers Ju-88 medium bombers escorted with Bf-110 and potential Bf-109 at a higher altitude. The formation travelled West along the Western coast of England, and No.10 Group RAF was set on high alert and prepared for a scramble. Squadrons were suddenly ordered to be set up by 1700; 234 and 609 Squadron based at RAF Middle Wallop. By 1730, three flights of Supermarine Spitfires are airborne to intercept the hostile aircraft. Several He-111 bombers reached the airfield targets within 45 minutes of detection and had begun unloading their payloads of 50lbs bombs. A Ju-88 dive bomber began a steep decent against RAF Middle Wallop from a peculiar angle, undiscovered by any RAF aircraft. Pilot Officer Tobin from 609 Squadron recalled the moment the bomb exploded on Hangar 5:

"My head was spinning, it felt as though I had a permanent ringing in my ears, I felt the blast go over me as I lay there flattened on the ground. I got up and my instinct was to run towards the hangar. It was carnage, I saw one overalled person with his foot and half a leg blown off, another had a great red patch on his chest with a load of mess hanging from it, another was rolling in agony with one of his arms missing.

The door of the hangar was only half closed and just inside I could see the bodies of four overalled men on the ground with one seemingly splattered against the edge of the door. I felt sick, I almost threw up there and then, but as other air force personnel came into the hangar, they just seemed to go about their business in a respectable and calm manner with no sign of panic. Then I remembered what I was told about the British, 'no matter how bad the situation, they will always keep that stiff upper lip."

By the end of the day of the 14th August 1940, the day that Hitler had planned his original attempt to annihilate the Royal Air Force, its effectiveness proved to be nothing short of a meaningless game in the skies with unplanned troubles which caused no significant damage to the RAF. All damage was soon repaired, and any damage done to the airfields attacked had been rectified by the following week and full operations were reinstated. It proved to be a disappointing first attempt from the Luftwaffe. Four RAF pilots were killed in action.

Figure 39 - two girls next to a crashed He-111 , Aug. 1940

Figure 40 – a downed He-111 on the 14th August 1940

15th August 1940; *what was known as 'the Hardest Day'* for the RAF, would be known as *'Alder Tag'* or *'Eagle Day'* for the Luftwaffe. It would ultimately prove the significant threat still posed by the Luftwaffe despite the several insignificant air raids currently being carried out against the RAF.

Weather reports issued by the RAF in the early hours of the 15th August 1940 were far greater than what had been issued the previous day which was ultimately the only cause for the Luftwaffe to have postponed its full-scaled operations. An initial low cloud cover gave limited visibility on the ground, but a gradually rising chance of high pressure building up over the English Channel would lead to a very fine and warm day; a day perfect for the full-scale attack the Luftwaffe had been desperate for. Originally, the poor conditions that had been issued to Herman Goring meant the planned attack would once again be postponed. However, as soon as conditions cleared by 1200, the launch would finally commence. British radar in the North of England would detect the start of the day of raids at 1000, as German bombers from Luftflotte 5 stationed in Norway launched a 63-strong medium bomber attack on Northern RAF airfields, who were later met by several Messerschmitt Bf-110 fighters to support (society B. o., 2007). Further German raids were launched from Denmark, consisting primarily of Ju-88 dive bombers and escorts of Bf-110s, planned with targeting northern and eastern RAF airfields. In response to the German threat, the RAF launched 54 Squadron and 501 Squadron from RAF Hornchurch and RAF Gravesend [respectively].

Members of the Royal Observer Corps reported 60+ Ju-87 dive bombers ensuing an attack from the Southeast, proving the need for more Squadrons; 615 Squadron from RAF Kenley was also dispatched. Strategic luck seemingly proved its worth to the RAF in the north. As British radar and observers analysed an incoming raid of 50+ German bombers from Norway, the RAF were initially put into fear – most of the northern Squadrons were newly formed squadrons and those undergoing training as the Luftwaffe were rarely seen to be targeting the northern airfields. However, several advanced and extremely experienced fighter squadrons had been placed up there on 'rest' due to the typical absence of the Luftwaffe in those areas. 72 and 79 Squadron were amongst some of the most renown fighter squadrons the RAF had to offer, who had by luck, been posted to the north of England upon the attack at noon on the 15th August 1940.

Even though luck took the side of the RAF fighter Squadrons, it played against them in the Observer Corps. For the same reason as the positioning of experienced fighter Squadrons, most of the experienced radar and observer operators were positioned as part of No.11 Group in the Southeast, so what the inexperienced Corps members in the Northern No.13 Group had initially stated was a formation of 30+ aircraft did in fact turn out to be 65 He-111 bombers, 50 Ju-88 bombers from Denmark and 34 Bf-110s 10 minutes behind the German bomber forces. Finally, corrections to the

predications had been rectified, and orders were sent out to have 605 Squadron and 41 Squadron support 72 Squadron (society B. o., 2007).

"No 72 Squadron from Acklington was the first to make contact and it came as a distinct shock when the thirty materialised as I and III/KG 26 with sixty-five Heinkel 111s, and the entire I/ZG 76 from Stavanger with thirty-four Me 110s. After a brief pause in which to survey the two massive groups flying in Vic formation, Squadron-Leader E. Graham led No 72 straight in from the flank, one section attacking the fighters, and the rest the bombers." (Society, 2007).

By mid-day, 54 Squadron, 501 Squadron and 615 Squadron were enroute to the mass of German bombers along the Southeastern coast towards Kent and Dover airfield and radar stations primarily formatted from Junkers Ju-87B stukas. 54 and 501 Squadrons were covering 615 Squadron from as they began the engagement of the German bombers. Messerschmitt Bf-109E aircraft ensued a dogfight with the RAF Spitfires and Hurricanes. By 1130, the Stuka's had begun their dive-bombing attacks on RAF Hawkinge and RAF Lympne causing drastic damage which would cause the two stations to be placed 'out of action' for more than 3 days and severely damaging the RAF's ability to detect incoming air raids (society B. o., 2007).

Whilst most southern RAF Squadrons were now being put into action and saw major engagements over the Southeast coast, more Luftwaffe raids originated from Denmark and Northern France. By 1500, two further raids consisting of Bf-110s and Bf-109 escorts had travelled across the channel and reached their targets. A large formation of 16 Bf-110s which had originally been detected by Essex had now reached their targets at Martlesham Heath, putting out two more radar stations for two days. Messages from the Royal Observer Corps became frantic and miscalculating. A lack of radar stations in operational service and a severe disruption to powerlines to the stations and to RAF command meant the RAF were now virtually blind and relied completely on the Observer Corps across London and the Southeast, who's technological advancements had been already hindered against the German aggressors.

By 1530 that day, the mass of German bombers that formed the main brunt of the bombing for of the 15th August had now cross the channel to the Strait of Dover from Calais. The main radar station at RAF Uxbridge became concerned with how to fend off the attacking force whilst only four RAF squadrons were currently patrolling the local area. Three more squadrons are released following a report from the Observer Corps (society B. o., 2007) although remain strictly outnumbered and outgunned as 80 German bombers mainly consisting of Do-17s and over 130 Messerschmitt Bf-109s approached Deal and a further 70+ Bf-109s approaching Folkstone and Dover. The odds were unfavourable against the RAF. Bf-109s kept fighters at bay whilst the bombers approached the coastline until they split into two distinct groups clearly with two separate targets; one appeared to be the newly developed Short Stirling bomber factor still under construction. Do17 bombers who were targeting the airfield and Stirling bomber factory dropped almost 300 High Explosion (HE) bombs on the airfield and caused significant damage on the airfield hangars and the factory. (society B. o., 2007).

What is still to be questioned is the reason for the German target of the Stirling factory. On that day, 6 potential RAF bombers had nearly reached readiness for test flying, however it had no direct link to the Royal Air Force or Fighter Commands potential success in the Battle of Britain. Perhaps this was a target to place a complete halt on all British supplies to the RAF without bias against the Wing. This would be a reasonable answer, although no evidence has ever been collected that demonstrates the Luftwaffe wanted to specifically target this area. A more likely outcome would be fear in the moment of the bomber pilots. A sudden and unplanned bombardment of RAF fighters

could have potentially sparked a desperate urge to release the bomber payload on a target. The nearby airfield was the original target; however it perhaps was sheer coincidence that the Stirling bomber factory was nearby? The damage caused on the airfield and the bomber factory did also not setback the Battle of Britain for the RAF at in any circumstance as the airfield was also of no relation to fighter command.

Fighting continued into the evening on the 15th August 1940. By 1700, the area of combat had moved from the Southeast to the West as several Bf-109 squadrons escorting Bf-110 group attackers were engaged by the RAF. Primary RAF Squadrons were scrambled, and in particularly, the Hurricane night fighting 87 Squadron from RAF Exeter along with 213 Squadron and 234 Squadron from Exeter and Middle Wallop. 609 Squadron was later scrambled to support these units later on in the evening but were initially placed on readiness.

The last squadron to be ordered to engage a German raid was 54 Squadron from RAF Hornchurch. Already scrambled twice previously on the same day, they were finally tasked to engage a large German air raid over Dover.

Overall, the first two major dates in the Battle of Britain certainly earned their nickname of the 'Hardest Day'. In all, 15 pilots were killed in the RAF during the 15th August 1940, and although made no major breakthrough for the RAF, it demonstrated the might of the British Air Force against the Luftwaffe raiders and overall amounted to a stalemate for both sides.

A second major date and perhaps the final major date for the Battle of Britain was the 15th September 1940, now credited for being *'Battle of Britain Day'*. As cited by John Terraine in *'The Right of the Line', 1985,* he states: ***"If 15th August showed the German High Command that air supremacy was not to be won within a brief space, 15th September went far to convince them that it would not be won at all."*** (society T. B., 2000)**.** It is argued, yet I strongly believe, to be the single day that turned the tide of the entire war. Up until this point, the war in Europe was vastly successful for German High Command. During the opening stages of the Battle of Britain, RAF pilots were poorly trained and had very few hours in aircraft, let alone any combat experience which therefore meant it was marginally successful for the Luftwaffe. After their failed attempts to launch a final blow to the RAF and Fleet Air Arm on the 15th August, Herman Goring sent what he believed to be an unstoppable mass of Luftwaffe aircraft in numerous raids, sent consistently throughout the day against primarily Southern targets in England. However, in shock to Goring, the RAF engaged the brakes to the German Luftwaffe and completely altered the outcome of the Battle of Britain. Should the RAF had lost this day, then it is evidently clear that the Luftwaffe would've continued to bombard the RAF and completely hound the British pilots who by this point, were extremely exhausted. However, the RAF united from across the nation, and gathered all available forces to counter the incoming air raid. Its outcome panned out extremely well for the RAF…

The cause of the air raid to be so big was primarily down to time. By September, the time was running out for Hitler to invade England. Several causes of this were apparent: an invasion any later than October would render a seaborne invasion near impossible for German forces. Hitler was knowledgeable about the previous attempt to cross the English Channel and invade England by sea from the Spanish Armada 300 years earlier. However, if he were to postpone the invasion for too long, he would leave British forces enough time to regather supplies and support the RAF and Royal Navy as well as rebuild and rearm the BEF after the French operations and would therefore pose the biggest threat to his captured European land. Furthermore, Hitler's war was built on invading the Soviet Union. He had planned to invade the summer after capturing England, and like his reasoning for his timing on the British land invasion, he was alto aware of the threat of a 'winter war' in the

USSR if his plans were delayed. This therefore meant he needed to completely destroy the RAF to begin invading England before the end of September, and he knew the RAF were still strong.

The day of intense operations began at 0900. Unaware of what the day would consist of Prime Minister Winston Churchill and his wife decided to visit the RAF Radar plotting room at RAF Uxbridge, HQ of No.11 Group RAF (society T. B., 2000). A radar warning soon arrived whilst the commander of No.11 Group, Group Captain Sir Keith Park was giving a tour and explanation to the visitors. A small number of enemy bombers had been detected over Dieppe, with a heading possibly to Dover. Squadrons at RAF Biggin Hill, Manston, Hornchurch and Kenley were placed on standby whilst Churchill sat and watched the operations room unfold. However, it was soon determined by Keith Parks that the enemy aircraft, who were not moving towards the English Channel only flying around the French coast, were trying to entice the RAF into scrambling its aircraft with no target and therefore to use up fuel. Whilst this developed, a Squadron of potential Bf-109s and a large group of bombers appeared on the radar. No further actions were taken to deploy RAF fighters.

30 minutes later, the formations had spread out and had moved across the English Channel to range of Dover and the Thames estuary, and the RAF scrambled its standby squadrons at the previously mentioned stations. However, in a sudden change of events, the Luftwaffe recalled its units as did the RAF. Nevertheless, the first kill was scored near Exeter when a lone He-111 reconnaissance aircraft was shot down by 87 Squadron. An hour later, the RAF detected yet another formation, this time larger and marked between Calais and Boulogne (society T. B., 2000). A formation of 100+ was detected, moments later, followed by a formation of 150+. It appeared the Luftwaffe were planning some of the largest air raids of the Second World War so far, but whilst they were busy forming up, were in no real hurry to do so, giving enough time for Keith Parks to organise his squadrons and defences.

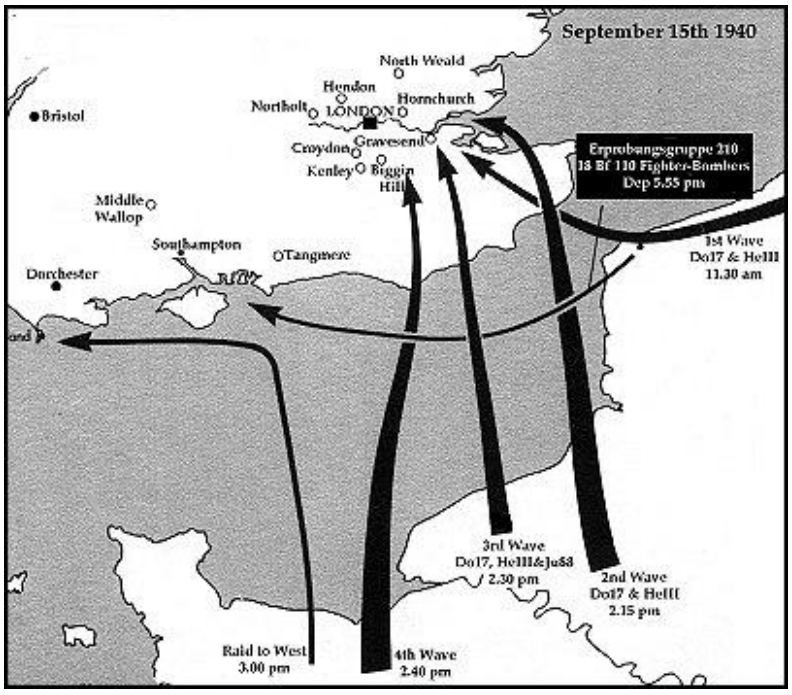


Figure 41 - Map of Operation Sealion

The day of raids continued to 1100. 200+ bombers and hundreds of Bf-109 escorts and Bf-110 group attack and fighter escorts were supporting raids which reportedly originated form Calais flying to Dungeness. The Following Squadrons were scrambled as the Dungeness raid amassed so many bombers:

1105hrs	**72 Squadron**	**Biggin Hill**	**Spitfires**
1105hrs	**92 Squadron**	**Biggin Hill**	**Spitfires**
1115hrs	**229 Squadron**	**Northolt**	**Hurricanes**
1115hrs	**303 Squadron**	**Northolt**	**Hurricanes**
1115hrs	**253 Squadron**	**Kenley**	**Hurricanes**
1115hrs	**501 Squadron**	**Kenley**	**Hurricanes**
1115hrs	**17 Squadron**	**Debden**	**Hurricanes**
1115hrs	**73 Squadron**	**Debden**	**Hurricanes**
1120hrs	**504 Squadron**	**Hendon**	**Hurricanes**
1120hrs	**257 Squadron**	**Martlesham**	**Hurricanes**
1120hrs	**603 Squadron**	**Hornchurch**	**Spitfires**
1120hrs	**609 Squadron**	**Warmwell**	**Spitfires**

(society T. B., 2000)

Half an hour later, the bombers were within a few miles of the British coastline, with hundreds of aircraft layered across the sky between 15,000 and 26,000 feet each. The raid spanned between Dover and Ramsgate continuing to head towards Dungeness. A large vic formation of the RAF Squadrons scrambled above came into sight of the bombers, bombers flying close to each other with hundreds of Bf-109 escorts flying above. Within 15 minutes of the initial interception of the bombers, Keith Park was forced to scramble more squadrons, from both No.11 Group and now into No.12 group, primarily from RAF Duxford:

1140hrs	**41 Squadron**	**Hornchurch**	**Spitfires**
1135hrs	**242 Squadron**	**Duxford**	**Hurricanes**
1135hrs	**302 Squadron**	**Duxford**	**Hurricanes**
1135hrs	**310 Squadron**	**Duxford**	**Hurricanes**
1135hrs	**19 Squadron**	**Duxford**	**Spitfires**
1135hrs	**611 Squadron**	**Digby**	**Spitfires**
1135hrs	**249 Squadron**	**North Weald**	**Hurricanes**
1135hrs	**46 Squadron**	**Stapleford**	**Hurricanes**
1140hrs	**1(RCAF) Squadron**	**Northolt**	**Hurricanes**
1140hrs	**605 Squadron**	**Croydon**	**Hurricanes**
1142hrs	**66 Squadron**	**Gravesend**	**Spitfires**

(society T. B., 2000)

The aerial combat that was to ensue above the British shore was intense, with further support from the Anti-Aircraft emplacements along the coast. The German formation was slowed down by effective defences from 72 Squadron and 92 Squadron. Three squadrons had been re-vectored, but continued to defend their positions, including 609 Squadron, 66 Squadron and 253 Squadron. 72 and 92 Squadron had soon supported the three re-vectored units. Although whilst the RAF were playing successfully and defending the British Isles, the Luftwaffe, spanning miles along the coast, were too having their success. Two Hurricanes from 229 Squadron were shot down by a Bf-109 and another Hurricane from a RCAF Squadron was also shot down over Tunbridge wells.

Fighting continued well into the afternoon and early evening, with huge RAF success rates. Movements of Luftwaffe raids continued to be detected and tracked across the Kent radar stations, and another huge raid similar to that intercepted at 1100 was building up over Boulogne once more. All squadrons involved throughout the morning were to also be used during the afternoon raid. Two squadrons were also used from No.10 Group. (society B. o., 2000). Squadrons continued to be rearmed and refuelled despite being placed on a state of readiness, and tired pilots were prepared to take off again within minutes. Three clear formations approached Kent, detected less than an hour beforehand, and overall numbered around 170 aircraft supported by Bf-109 and Bf-110 escorts which totalled the number in the raid well over 300.

Fighting continued into the evening, with an overall successful day, although pushed the pilots to the brink of exhaustion. The last raid of Bf-110s were detected at 1800, with raids being detected throughout the day almost one every one – two hours. Although not a day without losses, it was a huge numerical advantage to the Luftwaffe, and a day that demonstrated the continued effectiveness of the Royal Air Force over the Luftwaffe aggressors.

A full list of RAF pilots killed can be found in the Bibliography at the Battle of Britain history website

In total, the RAF suffered 1,542 aircrew killed, 422 aircrew wounded,744 aircraft destroyed, 14,286 civilians killed, and 20,325 injured. The Luftwaffe suffered 2,585 aircrew killed, 925 captured, 735 wounded, 1,977 aircraft destroyed: 1,634 in combat and 343 non-combat. It was regarded as the first major timing point for the German war-machine; their first defeat in the war so far, and a major victory for Great Britain. It showed the Luftwaffe that the Royal Air Force was not a force to be reckoned with and that Britain wouldn't be so easily dismembered as a nation as Hitler had found would happen in mainland Europe.

The soon RAF launched its first major bombing campaign against Germany and proceeded to bomb Berlin at night. In anger, Hitler turned his attention from RAF stations to London and other towns and cities. Between 7th September 1940 and 11th May 1941, the Luftwaffe launched constant night raids on London, often at least one every night. On the 30th October 1940, the RAF had no daylight attacks, and coincidentally, on the 31st October 1940, the RAF Air Chief Marshal stated complete British air superiority and a defeat for the Luftwaffe.

Chapter three: the RAF and combined Operations In 'Operation JUBILEE'

The Dieppe raid, as discussed in the British Army section, was a day of tortious disasters for both the ground forces and the RAF. However, the Commanders of the raid were fully aware that the raid would be even more potentially fatal if aerial support was not provided. The RAF had not had a significant encounter with the Luftwaffe since the final days of the Battle of Britain, and whilst the Blitz took place during the starting months of 1941, the RAF were not particularly involved. Furthermore, the RAF had seen limited action with their German counterparts after they began their invasion eastwards into Soviet Russia in the summer of 1941. It would therefore be a large morale boost for the crew of the allied RAF and RCAF if its outcome was tragic.

Whilst the Battle of Britain would be the only operation carried out completely in the air in history, it was the Dieppe raid which would hold title of the *'greatest air battle in history'* should the term be described with regards to the sheer number of individual sorties flown within the short <16 hours of combat (KeyMilitary, 2017).

There were several main ways in which aerial support was originally to be provided for the ground forces. Initially, the RAF would provide medium and heavy bomber support to disrupt reinforcements from inland as well as destroying the German coastal batteries. However, this was suddenly removed and the amount of aerial support to be provided to the ground units was limited to that of single engine fighters and few light bombers, primarily including RAF Boston's, P51Bs and Spitfire Vs. The beach of Dieppe, which had been broken into several different areas of operations, were key to the function of RAF targets. The following points are those decisions made in the original plan of the Dieppe raid:

(i) Two gun positions south of Jubilee which threaten the landings at Red and White beaches will be attacked by Hurricane bombers and day bombers. These positions will be attacked approximately five minutes before the landing craft are due to touch down.

(ii) If weather permits, aircraft will lay smoke on and bomb enemy gun positions on the headland to the east of Jubilee harbour during the final approach of the landing craft to Red and White beaches.

(iii) Close support fighters will attack the beaches (Red and White), the buildings overlooking these beaches and gun positions on the headland to the west of Jubilee as the landing craft finally approach and the first troops step ashore at Red and White beaches.

(iiii) A Spitfire squadron will attack the gun positions 4½ miles west of Jubilee in support of the attack on these positions made by Commando troops previously landed at Orange beach.

(KeyMilitary, 2017)

A second set of operation plans were then also outlined for the retreating forces of the infantry units. The numerical and strategic operational function of the RAF during Dieppe raid meant that intense planning was required for any form of success. It cannot be forgot that whilst the large proportion of medium and heavy bombers were removed from the task force when the Dieppe raid was renamed to *'Operation Jubilee'* from *'Operation Rutter'*, it was not just Fighter Command who were involved in the operations, and Bomber Command continued to provide a significant amount of bombing support through light bombers. For example, light RAF bombers were involved in what appeared to be simple operations physically but were immense amounts of planning such as smoke laying, one of which had been flown by 226 Squadron in the Douglas Boston bomber flown by Plt Off Kenneth Warwood (KeyMilitary, 2017). However, the dramatic environment of the Dieppe raid is clearly outlined by Flt Lt John Ellacombe from 253 Squadron RAF:

"I completed three tours of operations during the war, was shot down four times, served 34 years in the RAF, which included many tough assignments, but I am sure that this was the most dramatic of them all." (KeyMilitary, 2017).

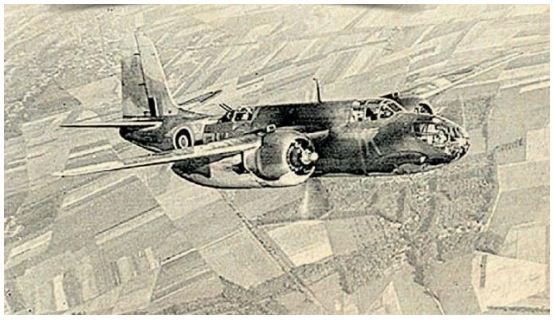


Figure 42 - Douglas Boston bomber, 1942

Figure 43 – Plt Off Pederson with his shattered windscreen

Aerial combat over Dieppe was nothing too dissimilar than what the British and Canadian forces on the ground were experiencing. RAF Fighters and bombers/smoke layers were all targeted by the Luftwaffe and the German Anti-Aircraft emplacements. Poor accuracy of allied bombers combined with a lack of intelligence as to the prioritised targets and a general lack of Targets of Opportunity meant the RAF were strictly limited in terms of capabilities to provide any real support over Dieppe. The lack of aerial cover and the sudden change of orders by removing substantial bombers and replacing them with ill-equipped, unusual fighters to carry out the role of a typical bomber meant the little arranged aerial support was of almost no use to support the ground efforts.

Little reports are available with regards to the aerial support of the RAF during Operation *'Jubilee'*, however combat reports and wider reading can be accessed via the *National Archives*.

Chapter four: 617 sqn – bombing Tirpitz

The Schlachtschiff *Tirpitz*, sister ship to the renowned Battleship Bismarck, was perhaps one of the unluckiest ships used in the Second World War. The German Battleship was built similarly to the Bismarck, using a range of modern RADAR, and ranging technology as well as being armed with torpedoes. The subsequent threat posed by the Tirpitz to British convoys and other British capital ships remained peak, despite the Royal Navy's advantageous numerical statistic compared to the Kriegsmarine. Entering service just one year after the Bismarck in 1940, the Tirpitz was almost immediately targeted for sinking by the Royal Air Force. The very existence of the Tirpitz in a fleet of any kind made her a threat to any navy. The British Merchant Navy was seeing an increase in German commerce raiding with the use of capital ships, particular the likes of the Scharnhorst and Gneisenau, meaning the chance of Hitlers plan to also use the Tirpitz, a significantly larger and heavier armed ship, for commerce raiding was likely. Her positioning in port meant the Royal Navy remained almost completely unable to target her, and therefore left the sinking of the Europe's largest capital ship in the hands of RAF Bomber Command.

Several attempts to sink the Tirpitz with general bombs were made throughout the war. In fact, the sinking of the Tirpitz was perhaps the longest campaign the RAF operated during the Second World War. However, one major factory remained prominent with attempting to sink a ship with general purpose incendiary bombs: it is extremely difficult to hit a target that wide from 30,000 feet. The Royal Air Force carried out a total of 26 separate attacks on the Tirpitz, originally starting the campaign in 1940. The first major attack began on the 9th March 1942 where 12 Fairey Albacore torpedo bombers attacked the Tirpitz from HMS Victorious whilst she was enroute between the Loften Islands. It was the first time the Tirpitz had been officially engaged by any British military force, and whilst the Tirpitz escaped the grip of the RAF and Royal Navy aircraft carrier, she shot down two of the twelve aircraft and subsequently six airmen were killed. It outlined quite simply to the RAF and the Fleet Air Arm (who were at the time a united force) that the Tirpitz was not going to be sunk as 'easily' as the Bismarck had been a year earlier in May 1941.

Following the attack on the 9th March 1942, the Royal navy carried out Operation *'Chariot'*. A somewhat bizarre operation in which one Royal Navy destroyer was destroyed, on purpose. Intelligence from the RAF and FAA showed that a major port in occupied France, Saint-Nazaire, would be an optimum location for a returning Tirpitz following any sortie in the Atlantic, even more so if she was to be damaged. Operation *Chariot* involved the destroyer HMS Campbeltown and 18 other smaller craft, with the aim of destroying the Saint-Nazaire dry dock, subsequently preventing the Tirpitz or any other major German warship from entering the French port for repairs. HMS Campbeltown was packed full of explosive ammunition and rammed the dry dock wall. The almost instantaneous explosion caused the death of an estimated 360 German soldiers, and whilst the Destroyer was ramming the port, 612 Royal Marine Commandoes were landed in and around the port with the job of sabotaging the German machinery in the port. The overall damage done to the port, particularly after the explosion of HMS Campbeltown, forced the port out of action until 1948. As a result of the damaged port, the RAF and Royal Navy were completely reassured that if the Tirpitz were to ever venture into the North Atlantic, and should she be damaged, she would be forced to return to a German or Norwegian port and therefore come well within range of RAF and FAA land-based attack aircraft or the Royal Navy's home fleet at Scapa Flow. Whilst historically the Tirpitz never travelled into the Atlantic, the reassurance provided that the Tirpitz would not be able

to run to France in range of the Luftwaffe similar to the plan of the Bismarck in May 1941 meant the Royal Navy were put at ease for now.

The first major RAF attack on the Tirpitz began on the night of the 27th/28th April 1942. Involving 31 Handley-Page Halifax bombers from RAF Lossiemouth, RAF Kinloss and RAF Tain and aircraft from three individual squadrons as well as 12 further Avro Lancaster bombers, targeted the battleship whilst she was moored at Faettenfjord. Tirpitz was unfortunately but not surprisingly, undamaged from the raid, despite the sheer number of RAF bombers involved in the raid attempt. The altitude to which carrying out a raid on a small target with a width of a mere 118 feet using conventional weapons was never going to be enough. In the raid, five aircraft were shot down, the Tirpitz claiming yet another victory against the ongoing RAF attacks.

Raids continued through 1942 and into 1943, however with the upcoming focus swiftly changing to the Dieppe Raid in August 1942 and the allied invasion of Italy in 1943-44, whilst the Normandy dock remained closed, the fear posed by the Tirpitz remained limited. Primary air raids resumed at full power in April 1944, where several attacks were launched from Royal Navy aircraft carriers whilst she was at Kaafjord. Operation *'Tungsten'* was launched on the 3rd April 1944, involving two individual waves of RAF and FAA aircraft and six individual aircraft carriers. Fairey Barracudas carried the heavy weights of the air raid, however escorts and light naval attack aircraft including Supermarine Seafire's, Vought Corsair's and Wildcat aircraft. The Barracuda aircraft launched their assault with torpedoes and light conventional High-Explosive (HE) bombs. Wave one was made up of 21 Barracuda primarily involving 830 SQN FAA. One aircraft was shot down and all three crew were killed. The second wave was made up of 19 Barracuda aircraft one hour after wave one, in which primarily involved aircraft from 829 SQN FAA; one more aircraft was shot down and only one of the crew survived. Whilst the raid itself caused no major damage to the ships armour, with almost zero penetrable effect, the ship's superstructure was substantially damaged because of lighter armament and subsequent fires from the HE. The overall raid resulted in the loss of around 100 German sailors with a further 300 wounded (RAF, 2020).

Figure 44 - Bomb placement of Barracuda

Figure 45 – Tirpitz after being bombed in Tungsten

Following the partial failure of the RAF and FAA in sinking the Tirpitz using lighter and smaller aircraft between April and August 1944, the RAF returned its focus to using heavier aircraft with more accurate bombing techniques in aircraft which have previously seen great success – particularly the Avro Lancaster.

In May 1943, the Lancaster was developed and modified to produce a 'special' variant which allowed the armament of a bouncing bomb, developed by Barnes Wallis, to be placed on the underside of a Bombay-less Lancaster. This became known as the Dambusters raid. At the time of the Dambusters

raid, the Lancaster was the only aircraft capable of carrying a payload in excess of 14,000lbs, its typical armament however in the focus of individual 1,000lbs Incendiary bombs. By the time the Tirpitz was being the focal point of RAF bomber command once more, Barnes Wallis took up the challenge of designing a new conventional weapon far heavier than any other bomb at the time and was also subsequently the key individual who led to the redesign once more of the Avro Lancaster's payload. In June 1944, Wallis tested a new 12,000lbs bomb nicknamed *'Tall-Boy'*, carried by another modified Avro Lancaster against the Saumur Railway Tunnel in France in support of the allied invasion of Normandy two days prior. The bomb had been issued to 617 Squadron, a veteran Squadron who operated the Barnes Wallis *'Bouncing Bomb'* in May 1943, and another specially formed bomber squadron, No.9 Squadron.

The design of the tallboy bomb was revolutionary, in fact it was so unique for the time that a direct hit was not necessary for the bomb to destroy its target. Arranged with four individual fins, it could be dropped from most medium-high altitude; the fins gave it extra gyroscopic stability with an induced spin providing greater accuracy of the target, whilst the sheer weight and engineering design meant It would surpass Mach 1.0 during its descent. It was designed not to necessarily need to hit the target directly to cause unimaginable damage but could land somewhere near the target whilst it would penetrate 100 feet into the surface of the area before exploding.

The first RAF raid which utilised the new tallboy bombs began on the 15th September 1944, nicknamed Operation *'Paravane'*. Led by 617 Squadron, commanded by Hames *'Willie'* Tait who was temporary OC of 10 Squadron. The raid planned to involve 38 Lancaster's from both 617 and 9 Squadron who left to fly to Yagodnik airfield on northern Russia however by the 15th September, only 27 were ready, and only 21 of them were equipped with tallboy bombs, plus one extra which was equipped with a camera to film the raid. The remaining six Lancaster's were armed with another new revolutionary bomb known as the *'Johnny Walker'* oscillating anti-ship mines. These weapons were designed to be dropped and release a parachute until it would strike the water and eventually resurface using internal buoyancy, planning to strike the hull of a ship and sinking it. The design of the anti-ship mine would also allow a small propeller to be activated after re-submerging, propelling it forward several feet and resurfacing until it hit a target. A total of twelve could be carried in one Lancaster, each weighing the equivalent to a 500lbs conventional incendiary bomb.

Even though the Lancaster's were eventually detected by German RADAR around the Tirpitz, it took the crew and those around the ship by surprise. A German attempt to lay a smoke screen was initiated however it did little to obscure the view for the RAF bombers. The only thing limiting the success of the raid was the use of relatively new weaponry, but despite this, one aircraft struck the bow of the battleship with a tallboy, and caused severe damage, placing her stagnant in Kaafjord and forcing a nine-month long initiation of repairs.

A second, slightly less successful raid on the Tirpitz was carried out a similar process to the previous operation. On the 29th October 1944, the RAF launched Operation *'Obviate'.* Hitler had by this point abandoned all plans to put the Tirpitz into normal full-time service. The loss of all other German capital ships between 1941 and 1943 and the remaining Gneisenau being forced into port for major repairs meant the Tirpitz was the only available battleship that has somewhat of a chance to complete any form of commerce raid, but in hindsight, it was still too great of a risk for his 'super-battleship'. Instead, the commanders of the Kriegsmarine decided her 15-inch guns would be of greater use to defend any German position in Norway, and therefore she was move to somewhere that was too shallow that even if she was sunk, she was still somewhat operational. After flooding was stopped from the raid in September, she limped to Håkøya Island located 3.5 miles from Tromsø. She began moving at midday on the 15th October 1944 and arrived the following afternoon.

Whilst the movement of her to this location would overall favour the German battleship in theory, it would only place her closer to the RAF, and would eventually mean the RAF no longer had to position their bombers in Russia to operate effectively.

In the early hours of the 29th October between 0103 and 0255, 18 Lancaster's from 617 Squadron and 18 Lancaster's from 9 Squadron took off from RAF Lossiemouth, RAF Kinloss and RAF Milltown, all carrying tallboy bombs (RAF, 2020). Unfortunately, what could've perhaps been the 'knock-out blow' needed to sink the battleship was avoided when low cloud cover protected the battleship from the Lancaster's visibility, and only 32 of the 36 dropped their tallboy bomb. Unlike the previous raid, no direct hits were scored, however one near explosion from one bomb did cause some damage to the port propeller shaft and subsequently forced her to remain at Håkøya Island. The RAF bombers suffered one loss from 617 Squadron who was damaged by flak and crashed in Sweden, however all crew returned to the United Kingdom (RAF, 2020).

The final raid was carried out on the 12th November 1944, nicknamed Operation *'Catechism'*. This time, a total of 18 Lancaster's from 617 Squadron and 13 Lancaster's from 9 Squadron were supported by a film Lancaster from 463 Squadron and launched their raid at 0259. The bitter cold night proved to be perhaps the greatest problem, forcing 6 of the Lancaster's from 9 Squadron to be grounded. Intelligence also gathered just prior to the raid stated a Focke-Wulf Fw190 Squadron had just been moved closer to the Tirpitz to provide aerial support. The crew of the two squadrons involved did not take this as a significant threat and were more concerned with flak cover around the Tirpitz. The scheme of the raid was not dissimilar to Operation *'Obviate'*, however the cool night meant clearer skies and as the Lancaster's approached the target, they were slightly lower in altitude, between 12,500 and 16,000 feet. 28 Tallboy bombs were released within four minutes of encountering the battleship between 0941 and 0945 in the morning of the 12th November. A further 10 were dropped by 9 Squadron a few minutes. Three of the 38 bombs hit the Tirpitz directly, penetrating well beneath the main deck of the ship, with the remaining bombs falling within damaging range of the hull of the ship. At 0952, the Tirpitz keeled over and capsized despite the prediction that she would remain somewhat afloat even if she was bombed. All crew from both squadrons eventually returned to the UK, claiming *"The Beast, had finally been sunk"* (RAF, 2020).

Chapter five: the age of Jets

The concept of a jet aircraft had begun in the United Kingdom before the outbreak of the Second World War. Amongst other things, the advancements in technology was developing at what could be argued to be the fastest rate of the modern era, especially without a doubt at the fastest rate of the 20th Century. Sir Frank Whittle was an English engineer and a pioneering test pilot and aviation mechanic in the 1930s and 1940s.

Figure 46 - Sir Frank Whittle and one of his engines

Whittle had a history of adventure in the aviation department; son of a mechanic, he entered the RAF in a fighter squadron in 1928 and became a test pilot in 1931 for around a year. He then continued to pursue a career in aviation mechanics and qualified with the Royal Air Force engineering school at the Cambridge University in 1937. He received significant doubts and was ridiculed by the British government for his desire to develop the concept of a jet engine, and subsequently attracted no investment from either the government or a private industry until 1936 where he joined a new company, Power Jets Ltd. It was here that he was able to lay the grounds and developments for his first jet engine, tested a jet engine on the ground in 1937, known as the *'Whittle Unit bench test engine'*.

Although Whittle was on track for becoming the first engineer to design and successfully test the world's first jet engine in an airframe, he was beaten by a German engineer called Hans Pabst von Ohain (Britannica, Sir Frank Whittle, 2021), who managed to place the jet engine in an aircraft which was test in August 1939. With rising tensions between Britain and Germany, the British government suddenly retracted the idea that the jet engine was an impossible and unimaginable concept and began funding his research and development. As the war progressed in Europe, so did the need for the RAF to become the first Air Force to operate a fully functioning jet aircraft, and in May 1941, the first prototype, Gloster E.28/39, constructed to implement the Frank Whittle engine, first took flight. Soon, the British government took over Power Jets Ltd and it was soon merged to form Gloster Co.

The new Gloster Company was beaten by the German Me-262 which entered service three months before Britain's first jet fighter, the Gloster Meteor Mk.I. Tested in June 1944, it entered service quickly after receiving great success in July 1944. The originally 'T-flight' which received the first jets for testing in April 1944, were merged with 616 Squadron at RAF Manston in July 1944 and received their first aircraft on the 12th July. The USAAF originally believed that the Gloster Meteor would support the American B-24 and B-17 bombers as well as P-51D Mustang escorts, however a fearful RAF prevented the Meteor from being stationed or operated over Europe, instead using it on the home front to support the Spitfire Mk.XIV and Hawker Tempest Mk.V which were engaged with regular attempts to 'knock-out' the German V-1 Rockets which proved a greater threat to England. The Meteor first 'tipped' a V-1 Rocket out the sky on the 4th August 1944, piloted by Plt Off Dean. A second V-1 was destroyed y Fg Off Roger a few moments after Dean and by the end of the war, 616 Squadron had claimed 13 V-1 rockets (Rickard J. , Gloster Meteor During the Second World War, 2008).

To support the USAAF who was yet to begin any sufficient jet engine development, the RAF began a training exercise with 100 B-24 and B-17 aircraft as well as 40 P-51 Mustangs. The development of this 'engagement' was to allow the American pilots discover some kind of counter against the German Me-262 jet. The original idea followed the Me-262 system, whereby the Meteor jets were placed above the American bombers and used their far greater speed to dive on the aircraft, through the formation and escape the bottom of the formation, all before the American escorts had any time to react to the jet threat. The outcome of this test was to place the American escorts 5,000ft above the bomber formation to allow them to visibly see the jets earlier, as well as to then dive and gain far more speed than if they flew at the same altitude as the bombers, and therefore allow the escorting fighters gain speed to engage the jets in a dive. This would later prove somewhat useful to the American escorts and would later be a system utilised by the famed *'Red Tails'* Squadron.

The Gloster Meteor remained under constant development, and by December 1944 had already been developed to the Meteor Mk.III. It was upon the reallocation of the Mk.III variant that the RAF finally decided the jet was suitable for service in mainland Europe, and as a result, the first jet squadron moved to Belgium in January 1945. Whilst the British jet pilots were not allowed to travel over German territory and were only able to carry out interception and air defence, it was hoped that the simple positioning of the British jets closer to Germany would provoke Germany from using their jets to engage the American bombers as they

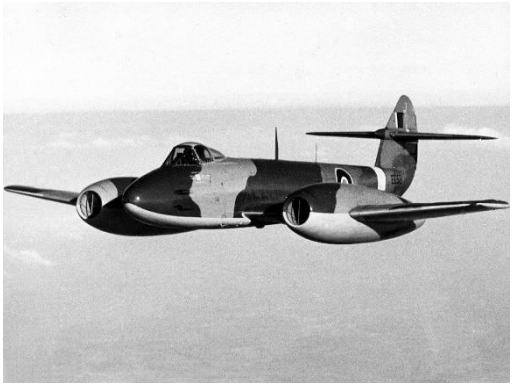


Figure 47 - Gloster Meteor Mk.I

travelled across the English Channel where they were being detected. In support of this, an entire British Meteor squadron was also located in Holland where they remained for March 1944 and moved again to Nijmegen in April. For the rest of the war, 616 Squadron carried out armed reconnaissance missions and ground attack with very few Combat Air Patrols and Air Defence missions.

The success of the Gloster Meteor against the German Messerschmitt Me-262 remains one of the biggest mysteries and frustrations of 616 Squadron during World War Two. Though the two aircraft never came face to face with each other and were never engaged in any dogfights, we are now only limited to statistics and theories based on specification comparison of the two famed aircraft. The only point in WWII where the Gloster Meteor came somewhat engaged in jet-to-jet combat was when they engaged a squadron of German jet bombers, Ar-234 which attacked the airfield in Holland in March 1945. “They came close towards the end of the war when a flight of Meteors encountered a force of Fw 190s, but they were forced to abandon their attack when other RAF fighters mistook them for Me 262s” (Rickard J. , Gloster Meteor During the Second World War, 2008).

It is unprecedented as to how much support the RAF Gloster Meteor could’ve provided if it had been stationed in mainland Europe earlier or was authorised to carry out missions over German territory. However, it is no doubt that the Second World War was key to the development of future technological designs and placed the key military and political regimes that we know initiated and carried the Cold War for the remainder of the 20th Century. In fact, it is also unprecedented as to how far technology would be today if it wasn’t for the development of military technology in the inter-war and Second World War periods.

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