

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

**CAPTAIN ERIC BROWN:
WEDDED TO GERMAN AVIATION FOR BETTER OR WORSE**

by

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Abstract

Captain Eric “Winkle” Brown is the British Royal Navy’s most decorated Fleet Air Arm pilot. During his 31-year career, he flew a world-record 487 aircraft types and performed a record-shattering 2,407 carrier landings. Interestingly, from the beginning to the end of his British flying career, his experience revolved around Germany and German aviation. This connection to Germany formed his flying foundation, continued through his combat and flight testing during World War II, blossomed during his time flying in post-war Germany, and culminated as he helped rebuild German aviation after the war. His incredible experiences, largely related to Germany and German aviation, produced notable milestones in the history of flight and experimental flight test and make Captain Brown one of the world’s greatest test pilots.

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Introduction

“When your back is to the wall, many people are capable of very brave actions. I count them as nothing to the bravery of the man who deliberately steps into a new machine and for the first time unsticks to prove it works.”

—Lord Brabazon of Tara¹

Captain Eric “Winkle” Brown stands out as an extraordinary test pilot, even among other test pilot legends. Hawker Aircraft Chief Test Pilot, Bill Humble, has stated that “in an era of outstanding test pilots, Winkle was simply the best.”² A former director of the Royal Aircraft Establishment (RAE) Farnborough, Sir Morien Morgan, has described Captain Brown as “a man who has lived more fully in the air than any other pilot of his generation” who is possibly “the greatest naval aviator of all time.”³ He remains the Fleet Air Arm’s most decorated pilot.⁴ King George VI even remarked to Brown “not you again” after awarding him so often for his amazing achievements.⁵ During a phenomenal 31-year career in the British Royal Navy, he flew a world-record 487 basic aircraft types⁶ and performed a record-shattering 2,407 aircraft carrier landings.⁷ In addition, he performed the world’s first jet landing onto an aircraft carrier.⁸ His career is nothing short of amazing.

A substantial part of Eric Brown’s aviation experience is related to Germany and German aviation. He considered Germany “an aviator’s utopia”⁹ and a flight with the German multiple-ace Ernst Udet fueled Eric Brown’s aviation desire as a youngster. He befriended aviatrix Hanna Reitsch before World War II and interrogated her after the war. He flew combat against Herman Goering’s Luftwaffe, flew the Luftwaffe’s best airplanes as the war came to a close in order to exploit them, and interrogated the Luftwaffe leader after the war. He thwarted Admiral Doenitz’s submarine attacks on British convoys, was sunk by one of his submarines, and met the

former German leader after the war. He was inspired by German aviation before World War II, helped defeat it during the war, and assisted in rebuilding it after the war.

Brown's life and career are undeniably tied to German aviation. His incredible experiences in the Royal Navy, largely related to German aviation, produced notable milestones in the history of flight and experimental flight test. A connection to Germany spanned his career, from his early flight memories, to his combat experiences and flight testing during World War II, to his time flying German aircraft as the war ended, and finally to his actions in helping rebuild German aviation after the war. This unique German aviation connection has helped Captain Eric Brown become "arguably the world's most experienced test pilot."¹⁰

Chapter 1 – Hals und Beinbruch

Eric Melrose Brown was born in Edinburgh, Scotland on 21 January 1919 with a distinct aviation heritage. His father, Robert, had been a Royal Flying Corps (RFC) balloon observer and pilot in World War I; he enthralled his son with his stories of aerial bravery and heroism. Eric Brown was fascinated as a child with the large portrait of his father in an RFC uniform that hung in their home and he keenly recalls coming “from an aviation family” with aviation in his blood.¹¹ His father fueled an interest in aviation by taking him flying for the first time when he was only eight-years-old in a Royal Air Force (RAF) biplane, and Brown’s upbringing was characterized by family discussions about aviation.¹²

In 1936, Eric Brown’s father took him to the Olympic Games in Berlin. By then, Germany had started its resurgence as a military and aviation power. Herman Goering had announced the existence of the Luftwaffe in March 1935 and had firmly proclaimed “we must become a nation of fliers.”¹³ As a former RFC pilot, Robert Brown and his son were invited to social gatherings with German World War I pilots that were now part of the Luftwaffe. While there, Eric Brown first met Ernst Udet and Hanna Reitsch, both of whom were popular German air show performers at the time. Colonel Udet took a liking to Brown’s “boyish enthusiasm for aviation” and offered to take him flying.¹⁴ Of course, Eric Brown eagerly accepted this amazing offer from “Germany’s highest-scoring living ace.”¹⁵

Colonel Udet, then chief of the Luftwaffe’s technical department, drove south of Berlin and arrived at a two-seat Bücker Jungmann. He firmly strapped 17-year-old Brown into the front seat and took off from the rear cockpit for a flight that Brown would never forget. Colonel Udet put on a full aerobatic routine for this impressionable young man and pushed the Jungmann to its limits. On final approach, Udet “suddenly rolled the Jungmann on to its back ... and glided

inverted” down the approach path.¹⁶ At 50 feet above the runway, Colonel Udet rolled the aircraft upright to land, “roared with laughter” and yelled out “Hals und Beinbruch,” the German fighter pilot greeting.¹⁷ Udet told Brown after the flight that he “must learn to fly” and that he had “the temperament to be a fighter pilot.”¹⁸ Brown took the German aviation hero’s advice to heart and made it the focus of the rest of his life.

In 1937, Eric Brown graduated from high school and entered Edinburgh University. While there, he joined the University Air Unit and received his first formal flight instruction. In February 1938, he once again traveled to Germany. While there, Ernst Udet, a Luftwaffe Major General at the time, invited him to the Deutschlandhalle to the International Automobile Exhibition. As part of the show, Hanna Reitsch performed the first public demonstration of a helicopter in front of an amazed crowd¹⁹ and a stunned Eric Brown. This demonstration, and the small gathering that followed at Udet’s apartment with Hanna Reitsch in attendance, further fueled Brown’s aviation desire.²⁰

Eric Brown studied modern languages at Edinburgh University, with a concentration in German. In the third year of his studies, he was selected as an exchange student to spend six months teaching at Salem International College in Germany on the banks of Lake Constance. In September 1939 while in Germany, he was awakened by a loud knock at the door. As he opened the door, a woman interpreter loudly proclaimed “our countries are at war.”²¹ He was escorted to the Swiss border, and raced home worried that the war would end before he was able to join the action. The RAF had no need for Brown’s immediate services, but the Royal Navy’s Fleet Air Arm had an urgent demand for pilots and he joined immediately.²²

Eric Brown sailed through his officer and flight training, with high enough marks to proceed to advanced training in June 1940. However, flight training in the midst of a war was

far from typical. In fact, an Me 110 pilot shot down an unaware classmate of Sub-Lieutenant Brown's on a mild summer day during his training sortie. When the Battle of Britain began a few months later, the Gloster Gladiator trainers were sent up armed just in case. Brown was nearly within range of aerial victory during a training sortie over Somerset, when ack-ack fire destroyed the two Heinkel III's that he was approaching from low six-o'clock.²³ He would have to wait another year before he could claim his first kill.

Chapter 2 – Contributing to Allied Victory

Following flight training, Sub-Lieutenant Brown was sent to the 802 Squadron in Fife. However, that squadron was awaiting new aircraft and Brown was temporarily loaned to the 810 Squadron because they needed “urgent replacements to make up their terrible losses.”²⁴ Flying a Skua dive bomber from the Orkney Islands, Brown flew his first combat mission against oil tanks in Norway. As quickly as he was sent to the 810 Squadron, he was needed back in Fife and immediately rejoined the 802.²⁵ He was excited to discover upon his return that the squadron was getting F-4F Wildcats from America.²⁶ Renamed the Martlet in Britain, it was far superior to any other aircraft in the Royal Navy and would be put to good use against the Germans in a few short months.²⁷

The 802 Squadron was the first to fly from an escort carrier, an idea which had been “a child of Churchill’s genius.”²⁸ The HMS *Audacity* was the first such carrier, built by placing a 420-foot flight deck and arresting wires on the top of a captured German steamer. It was a quick and inexpensive way to add air cover to friendly supply convoys in order to drive-off the German bombers that would attack them and report their positions to enemy submarines.²⁹ Winston Churchill visited Brown’s squadron as they were working up for their first deployment and the Martlets were used to put on an impressive aerial display. Sub-Lieutenant Brown took off on his part of the demonstration and immediately rolled inverted after liftoff as part of the show. His engine seized in this awkward position and his Martlet plummeted into the Firth of Forth directly in front of the prime minister.³⁰ Brown was fished out of the water unharmed.

Eight pilots and six aircraft set sail on the *Audacity* with a convoy bound for Gibraltar in September 1941. Conditions were challenging. The deck was a lot smaller than typical carriers and its movement was magnified. However, since many of the pilots “had never set foot on a

flight deck” they had nothing to compare these conditions against.³¹ There were no hangers on the *Audacity* and all maintenance was done on the flight deck at night with covered flashlights to prevent detection. In these impossible conditions, Brown acknowledges the great work of the mechanics that kept the Martlets in fighting condition; “we owe our lives to these men.”³² Brown and the 802 chased away a couple of U-boats during this initial trip and drove off German aircraft shadowing the convoy. The squadron made the return trip in October, with equally good results. However, Sub-Lieutenant Brown did not fare so well on one mission. A German gunner shot out his side windscreen and Brown’s exposed face was sprayed with its shards. He returned to the ship dazed and caught the emergency wire. His head was violently jerked forward into the gun sight during the arrestment and he was knocked unconscious; he was out of commission for the remainder of the trip.³³ However, the *Audacity* had proved its worth, and Brown’s expertise would be needed again soon.

On 28 October, the convoy proceeded south with eight Martlets. However, the aircraft would not be as resilient as in the past. A landing accident destroyed one aircraft and a Focke-Wulf 200 Kurier destroyed another, both within the first two weeks of the trip. On 8 November, most of the aircraft were down for maintenance, and the German air attacks were becoming more intense. The only available Martlet on deck was one with a bent propeller, and Sub-Lieutenant Brown joined the fight as his “propeller vibrated roughly.”³⁴ The weather was poor and Brown’s two-Martlet formation split apart to chase two Kuriers which were using the clouds as cover. After three failed beam and quarter attacks by Brown, his Kurier disappeared in the clouds. However, a few minutes later the German bomber surprisingly exited the clouds directly in front of Brown who successfully pressed the head-on attack.³⁵ “The huge machine reared, stalled, and spiraled flatly into the sea.”³⁶ Brown had his first kill and the convoy escaped any losses. The

Squadron had also learned a Kurier defensive weakness, head-on attacks, that would be exploited again on the return trip. Brown's Martlet would later be condemned as completely unserviceable due to the propeller's condition.

Brown's success continued on the return trip, but the U-boat activity was much more threatening to the convoy on this voyage. On 19 December, Brown scored his second Kurier kill using a head-on attack and in doing so became "first fighter pilot to destroy two" Kuriers.³⁷ He also strafed two surfaced U-boats on 21 December. Later that same day however, the U-boats got their revenge. A series of torpedo attacks disabled the *Audacity* and eventually sunk her. Brown spent three nighttime hours in the cold Atlantic Ocean before being rescued. The *Audacity* might have been lost on this trip, but Admiral Doenitz admitted in after-action reports that the *Audacity* had been effective in forcing "his U-boats to submerge or withdraw" throughout her time as an escort carrier.³⁸ Sub-Lieutenant Brown and the 802 Squadron had proven Churchill's idea effective, and escort carriers would protect convoys for the remainder of the war.

After a brief stint in the reformed 802 Squadron, Sub-Lieutenant Brown was sent to the Royal Aircraft Establishment (RAE) at Farnborough. His commanding officer had recommended him for carrier trials duty because he "had a natural flair for deck landings which should be exploited."³⁹ This focus would dominate the next two years of his life. The British Martlets were in short supply, and the Royal Navy needed more high-performance aircraft on their escort carriers. Brown flew the testing that qualified Hurricanes and Spitfires, renamed Seafires, for such duty. He also performed arresting gear and catapult tests in a variety of aircraft on each escort carrier to qualify the carriers for operational service.⁴⁰ "My life was one

long stint of launching and landing, in one type after the other”⁴¹ and by the end of 1943, he had amassed a staggering 1,500 deck landings on 22 different carriers.⁴²

Even though Sub-Lieutenant Brown had started aircraft test flying, he continued to participate in combat. After all, his nation was at war. In 1943, he joined the Royal Canadian Air Force in fighter sweeps over France to protect B-17s. He also did regular stints of fighter patrol in Spitfires to protect Britain from air-raids. He was on the receiving end of combat in the summer of 1944 when his home was destroyed by a German buzz bomb. Fortunately, his family was unharmed and Brown was further motivated to deliver the best combat aircraft to Britain in order to end the war quickly.⁴³

At the end of 1943, then-Lieutenant Brown progressed from service trials to pure experimental flying. “During the second World War ... the test pilots of this country contributed an untold amount toward Allied victory”⁴⁴ and Lieutenant Brown certainly did his part. With no formal test training, Brown was shipped to southern Italy to fly a variety of captured enemy aircraft. After a few minutes of ground instruction and study, Lieutenant Brown was sent airborne in a variety of single-engine and multi-engine Italian aircraft.⁴⁵ He survived this experience and his impressed commander sent him to the “prestigious Aerodynamics Flight” at Farnborough.⁴⁶ In his first month in that position, he flew 13 different aircraft types, including seven entirely new prototypes and a captured Focke-Wulf 190.⁴⁷ This variety in Brown’s logbook was a harbinger of great things to come.

As the chief naval test pilot at Farnborough, his first major project was to determine the feasibility of landing a twin-engine aircraft on a carrier.⁴⁸ Since the Mosquito Mark VI was twice the weight of any aircraft which had landed on a British carrier, a substantial amount of work had to be done to demonstrate this concept. However, Lieutenant Brown quickly

completed this project. When he landed on the HMS *Implacable* on 25 March 1944 and performed the “first deck landing of a twin-engined aircraft,”⁴⁹ everything was ideal except for the fact that the crew had forgotten to reserve him a cabin on the ship for the night. As he pondered his first major flight test milestone, he fell asleep on the carrier’s wardroom couch.

About this time, Lieutenant Brown began his investigation into high-speed and transonic flight conditions⁵⁰ and the RAE was the world leader in this type of testing.⁵¹ Early in 1944, General Doolittle recognized the need to stem the tide of American escort losses during intercepts and turned to Farnborough for help.⁵² These losses were the result of escorts diving to intercept German fighters and continuing the dive without recovery. Brown investigated high speed maneuvering characteristics of the P-38, P-47, and P-51 and compared them to captured German Me 109s and Fw 190s. He determined that at a specific Mach number the primary fighters of the time would experience unusually high forward stick forces that would make recovery impossible. Through Brown’s research, this speed was determined to be much faster for the German fighters than for the P-38s and P-47s. However, P-51s held the advantage over all aircraft at the time.⁵³ This evidence was all General Doolittle needed to argue exclusively for P-51s in the European theater. The Mustang went on to become the best escort fighter in Europe.⁵⁴

On 14 May 1941 Brown diverted into RAF Cranwell due to poor weather. The next day he was asked to do a weather check and later that afternoon he realized the reason for the test. He had unknowingly stumbled across the first flight of Britain’s first jet, the Gloster E.28/39.⁵⁵ Little did he know that three years later, he would be in the midst of British jet aircraft developmental testing and would be the last person to fly the E.28/39 in February 1945.⁵⁶ Frank Whittle first proposed the jet engine in 1929, but the British Air Ministry rejected it. In 1935,

Hans von Ohain started German jet engine research, and Germany's first jet plane flew in August 1939. The short-sightedness of the British military had given Germany a lead in this critical area.⁵⁷ However, once convinced of the need for jet engines, the British were quickly spurred into action. By 1944, the British had caught up to Germany and the first British production jet, the Meteor, entered service only slightly after the German's first production jet, the Me 262.⁵⁸ Lieutenant Brown played a large part in the continued research of jet aircraft. He was the first Fleet Air Arm pilot to fly a jet, and personally met with Whittle to recommend improvements in the jet engine for naval use. Based upon his advice, the Meteor became the Royal Navy's first jet aircraft.⁵⁹

The British also had their sights set on supersonic flight as early as 1944. It was the British plan that the Miles M.52 would be the first aircraft to break the sound barrier and Lieutenant Brown was chosen to be its primary pilot.⁶⁰ Brown flew components of the revolutionary M.52 design in early 1945, including the wings and the tails, on other aircraft as a build-up approach to Mach 1.0.⁶¹ By late 1945, the M.52 project was almost complete.⁶² However, for a reason still "shrouded in mystery," the British government instructed the test team to hand over every detail of the program to the Americans and the British program was officially cancelled in February 1946.⁶³ The Bell X-1's design was very similar to the M.52. The British-designed all movable tail was a key innovation that allowed America to overcome its largest technical limitations and become the first break nation to break the sound barrier.⁶⁴ It would be several more years before Lieutenant Brown would exceed Mach 1.0, but first he had to venture into the rubble of post-war Germany.

Chapter 3 – Hither and Thither

As World War II in Europe was coming to a close in the spring of 1945, leaders at RAE Farnborough realized that they needed to mobilize in order to acquire notable German aviation technology for subsequent Allied use and to prevent the Russians from doing the same.⁶⁵ Because he was “a fluent German speaker” and “a pilot of vast experience,” Lieutenant Brown was initially tasked with developing the training for the scientists and pilots that would serve in Germany as the war ended.⁶⁶ As he demonstrated his expertise in this area, he was named the commanding officer of the Enemy Aircraft Flight and was tasked with leading the British contingent on their mission into Germany.⁶⁷ The team entered the rubble of post-war Germany on 15 April 1945 and “sent its test pilots hither and thither” to collect the Luftwaffe’s best technology as Allied ground forces gained German territory.⁶⁸

In this chaotic environment, Lieutenant Brown would fly “all the German types” of aircraft.⁶⁹ This amazing experience resulted in flights in 55 different and unique aircraft types, mostly flown with little documentation or training.⁷⁰ He was able to appropriate German aircraft at will, because of a personal authorization letter from the office of Winston Churchill.⁷¹ Upon arrival, his team dispersed throughout Germany, collected German equipment, processed it at a staging base at Schleswig, and returned it to Britain. He was extremely busy during this time, and averaged four to five flights a day. In June 1945 alone, he flew 30 different types of aircraft.⁷² “German aeronautical technology made a huge impact on the post-war aviation world and heavily influenced the new design philosophies in Britain, the United States, and the Soviet Union.”⁷³ Lieutenant Brown led the British in this critical effort.

Brown’s initial experiences as the war was ending were extremely unique in a very unpredictable environment. At his first location, Lieutenant Brown witnessed the horrors of

Nazi violence. As a fluent German speaker, Brown was asked by the occupying commander to interrogate the Belsen concentration camp commander and his assistant. “Two more loathsome creatures it is hard to imagine” says Brown candidly as he witnessed “the still open graves” and the “shuffling ghosts of men.”⁷⁴ Shortly thereafter, Brown flew to Denmark to exploit Germany’s jet reconnaissance bomber, the Arado 234B. Based on Army intelligence, he expected Allied occupation of Grove Airfield where the Arados were based. Unbeknownst to him, the Allies were slow in their advance and Brown’s landing at Grove was instead at an active German airfield. Fortunately, the German commanding officer surrendered to him upon arrival and Brown controlled the airfield and its 2,000 men until Allied ground troops arrived the next day.⁷⁵

Lieutenant Brown was in a position to interview leading aviation authorities in Germany after the war, including Reichsmarschal Hermann Goering. Goering had a critical role in the Nazi regime as Hitler’s deputy beginning in 1933 and leader of the Luftwaffe beginning in 1935.⁷⁶ The Nuremberg verdict stated that Goering “was the main initiator of the aggressive war, both as a political and military leader” and “for almost the entire time, Goering was the ‘driving force’ leaving first place only to Hitler.”⁷⁷ Goering was detained by the Americans after the war. Lieutenant Brown was approached by Colonel Watson of the United States Army Air Forces who requested four Arado 234s from the British. Colonel Watson headed ‘Watson’s Whizzers’, a group doing for the United States what the Enemy Aircraft Flight was doing for Britain. The Americans had been unable to acquire any of these new jet aircraft, and the British had a plethora of them. Lieutenant Brown was willing to trade four of them for an interview with Goering and the Americans accepted the offer.⁷⁸

Lieutenant Brown traveled to Luxembourg to interview Hitler's right-hand man. Goering was at first aloof and uncooperative until it became apparent that Brown was only there as a pilot to discuss German aviation. Goering's demeanor immediately changed and he was subsequently friendly, cooperative, and polite. During the course of the interview, Goering firmly supported Hitler's decision to use Me 262s as fighter-bombers instead of as purely defensive fighters. He also agreed with Hitler that opposing an invading army through interdiction took priority over homeland defense from aerial bombing.⁷⁹ In addition, he admitted to never supporting the formation of a heavy bomber force because "Hitler's blitzkrieg policy was intended to bring about a short all-out war and not a prolonged conflict."⁸⁰ Therefore, a quick victory would make the bombing of industry unnecessary according to Hitler and Goering. Throughout the interview, Goering demonstrated "unswerving loyalty to Hitler" and fully admitted "responsibility for his own actions".⁸¹ Brown was struck by Goering's "likeable charisma" and frankness throughout the interview.⁸²

Lieutenant Brown was also able to interview Hanna Reitsch who had been in American custody since 9 May 1945.⁸³ She too spoke freely to Brown, remembering their previous meetings and their shared love of experimental flight test. Reitsch had been a first-hand witness to the end of the Nazi regime. She was "an ardent Nazi and a veteran admirer of Hitler"⁸⁴ and was considered "Hitler's favorite pilot."⁸⁵ Her unique test flying, including a manned version of the V1, earned her two Iron Crosses⁸⁶ and the patronage of Hitler who had given "her access to fly any aircraft she wanted."⁸⁷ She was part of the "suicide council" in Hitler's bunker on 27 April 1945, but was ordered out of the bunker along with the new chief of the Luftwaffe, Robert Ritter von Greim, on a last-ditch effort to save the regime.⁸⁸ She may have been the last person to leave Hitler's bunker alive.⁸⁹ Reitsch detailed for Lieutenant Brown her and von Greim's

amazing aerial journey to Hitler's bunker in April when they landed on a road near the Brandenburg Gate while under Russian ground fire.⁹⁰ She also explained her helicopter flight test experience and the details and dangers of test flying the revolutionary Me 163 Komet rocket fighter. This specific information would be useful to Brown a short time later when he was to fly the Komet for himself. Brown, while he admired Reitsch's flight test work, was appalled by the "fanaticism she displayed in her attitude to Hitler" which made his "blood run cold."⁹¹

Overall, Lieutenant Brown was amazed by the progressed state of German aviation technology at the end of the war. After his interview with Hanna Reitsch, Lieutenant Brown was anxious to achieve powered flight in the Me 163 Komet. This aircraft was a "drastic countermeasure" to the successful fighter escort of the American Mustangs.⁹² During its short four-minute rocket-powered boost, its performance was dazzling. It had a 16,000 foot per minute climb rate, which was five times greater than the typical piston aircraft.⁹³ However, with its amazing performance came substantial risk during ordinary phases of flight. Only five percent of Komet losses were attributed to combat, while 80 percent were due to takeoff and landing crashes.⁹⁴ None of this deterred Lieutenant Brown. After three unpowered flights under tow, he was ready for a powered flight. He was fortunate to find proper rocket fuel, an experienced and trustworthy maintenance crew, and serviceable aircraft all in one location. These factors allowed him to likely become the only Allied pilot to fly a powered Me 163.⁹⁵ He described its flying characteristics as "being in charge of a runaway train" and felt that it would require "considerable skill to down a bomber."⁹⁶ Nonetheless, he was exhilarated by this amazing leap in technology.

Brown was also amazed at other aspects of revolutionary German aviation technology. German advanced wind tunnels, including a supersonic tunnel, allowed them to investigate a

wide range of aircraft configurations and conditions. They had a firm grasp on liquid fueled rocketry, which allowed them to field the effective V2 rocket and the Me 163. The Germans had even produced a lethal air-to-air missile, the R4M; a R4M “strike on an enemy aircraft meant its total annihilation.”⁹⁷ The Germans also fielded propeller reverse thrust, ejection seats, auto dive recovery, and electronic control surface actuators. German advances directly affected the designs of the DH 108, F-86, and MiG-15.⁹⁸ However, in Eric Brown’s opinion, the overly aggressive German experimental mindset until the last days of the war drained “resources away from the vital necessity to concentrate on development and mass production” of aircraft.⁹⁹ This lack of Luftwaffe coordination and control of the German aviation industry limited its effectiveness.¹⁰⁰

Lieutenant Brown was highly impressed with the Me 262, Germany’s twin-engine jet fighter-bomber. While he recognized the sensitivity of the axial flow engines and complexity of the start-up sequence, he was struck by its tremendous performance.¹⁰¹ While Brown believes that the Spitfire Mark XIV was likely “the most outstanding piston aircraft of World War II”¹⁰² he unquestionably believes that the Me 262 “was the most formidable aircraft produced in World War II, its performance rendering it virtually untouchable.”¹⁰³ It was 125 miles per hour faster than the fastest Allied fighters and its climb performance was exceptional.¹⁰⁴ Fortunately for the Allies, its production was kept low by strategic bombing.¹⁰⁵

Lieutenant Brown flew several other unique German aircraft, and often relied upon German maintainers to assist him along the way. One of Brown’s tasks was to ferry twelve Arado 234s to Farnborough. He relied upon a captured German pilot and two German technicians to help him with the flights, and they performed loyally and faithfully. These three were “given a small hut in the centre of the RAE” and worked there “on their honor not to

escape.”¹⁰⁶ These same three escorted Lieutenant Brown throughout Europe, and while it was at times difficult to explain their presence to the Allies after the war, “they carried out their duties to the letter, and often exceeded them.”¹⁰⁷ They “proved completely trustworthy, extremely industrious, and highly intelligent.”¹⁰⁸ Quality assistance from captured Germans was not always the norm. Lieutenant Brown was to examine the six-engined Blohm and Voss 222, “the biggest operational flying boat in the world,” with the help of a Luftwaffe major.¹⁰⁹ On initial takeoff, they seemed to be traveling a long distance over the water without climbing. Lieutenant Brown grabbed the controls and realized that the German had intentionally left the control locks in the surfaces. Brown was barely able to cut the throttles in time to prevent the German from intentionally wrecking the aircraft and killing them both. He took the threat casually, expelled the German from the cockpit, removed the control locks, and proceeded to takeoff on his own. The 222 proved to be a “pleasant boat to fly.”¹¹⁰

In the midst of exploiting captured enemy aircraft, Lieutenant Brown remained busy working on naval flight test projects back in Britain. The British were focused on becoming the first nation to land a jet aircraft on a carrier, and Brown was the natural choice because of his unmatched carrier background. The build-up test flights for this milestone lasted throughout 1945. On 3 December 1945, Brown landed a Sea Vampire jet on the HMS *Ocean*¹¹¹ and “heralded a new age in carrier flying” for the British and the world.¹¹² Lieutenant Brown was also working on a flexible landing deck during this time. This concept would remove the need of an aircraft’s heavy and complex landing gear and save valuable space on a carrier for aircraft storage.¹¹³ The aircraft would catch an arresting wire and be forced down onto a deck “constructed of fire hoses overlaid with rubber.”¹¹⁴ The aircraft would then be put onto a trolley to store in the hangar deck below until it was time to launch it via a catapult.¹¹⁵ Lieutenant

Brown would be the first to put this gear-up landing concept into practice as the commander of Farnborough's "prestigious Aerodynamics Flight."¹¹⁶ He performed the first flexible deck landing trial at Farnborough in December 1947¹¹⁷ and the first sea landing on a modified HMS *Warrior* on 3 November 1948.¹¹⁸ While Lieutenant Brown proved the idea feasible, it never gained momentum. However, unique British thinking would provide a true revolution in naval aviation in the years to follow and Lieutenant Brown would play a critical role in these advancements.

Chapter 4 – We'll Risk the British Pilot

After a long and fruitful stint at RAE Farnborough, Lieutenant Brown returned to his old squadron in 1949. As the 802 senior pilot, he was responsible for keeping the squadron at “peak operational efficiency” and molding new fighter pilots into “one’s own pattern.”¹¹⁹ The squadron spent large amounts of time at sea where Brown’s phenomenal background and tremendous flying skills enthralled the entire squadron. The 802 also participated in exercises around Europe and one such exercise brought Brown back to Germany for two months. There he was able to fully enjoy the luxuries of a typical Luftwaffe station, provided by their long-time benefactor Hermann Goering.¹²⁰ In 1951, it was time for Brown to return to the test community and he was transferred to the Naval Air Test Center at Patuxant River, Maryland as an exchange pilot.

Brown’s commander at Pax River was a long-time friend, Marine Corps test pilot Marion Carl. Then-Lieutenant Colonel Carl was thrilled to have someone with Brown’s experience as he noted that “Eric probably was the most experienced test pilot flying at that time.”¹²¹ After breaking the sound barrier in an F-86 and booming the admiral’s house to win a bet on his first flight at Pax River, Lieutenant Brown was off to a good start in America.¹²² As a result, the admiral invited Brown to become his regular bowling partner to keep a closer eye on him. One of Brown’s biggest contributions while in the United States was to demonstrate the British steam catapult to the Americans. The HMS *Perseus* docked at the US Navy Yard in Philadelphia in February 1952 to conduct these trials in front of a large official delegation.¹²³ Then-Lieutenant Commander Brown was slated to fly an American F-9F Panther for the tests, but there were tail winds instead of head winds on the scheduled test day. After a British official declared without consulting Brown “we’ll risk the British pilot if you’ll risk the aircraft” the test was continued.

Fortunately, Brown successfully demonstrated the effectiveness of the steam catapult to the Americans that day without incident.¹²⁴

In 1951, the British had also invented the angled carrier deck,¹²⁵ an idea that had sprung inadvertently from the flexible deck project.¹²⁶ Lieutenant Commander Brown was tasked by the British to advocate the idea to the Americans during his exchange tour.¹²⁷ The Americans clearly listened to Brown, because the USS *Antietam* was built with an angled deck and nearly ready for flight testing only nine months later.¹²⁸ The angled deck was a huge success for the Americans as it had been for the British. After testing in 1952 and 1953, the change proved that it “gave the carrier improved combat readiness” and provided the “safest, most desirable, and most suitable platform for all types of aircraft.”¹²⁹ The American chief of naval operations commended Lieutenant Commander Brown and the British for freely offering these revolutionary technologies to the Americans.¹³⁰

Lieutenant Commander Brown returned to Britain in 1953 and performed a variety of operational roles for the next four years. He was briefly the watch officer on an anti-submarine frigate and lamented the differences in driving a boat as compared to flying experimental aircraft. He then transferred to a position where he flew helicopters, calling on his self-learned helicopter training from 1945¹³¹ and experience from a helicopter test program with Igor Sikorsky in 1946.¹³² At the end of 1953, Lieutenant Commander Brown took command of the 804 Squadron and had the substantial job of being the only instructor pilot to convert the entire squadron from piston-engined Sea Furies to Sea Hawk jets. This experience demonstrated to Brown that it was fairly simple to transition from pistons to jets because he was able to convert his entire squadron in only three months.¹³³ In 1954, then-Commander Brown became the

commander (air) of Royal Navy Air Station (RNAS) Brawdy and remained there until it was time to return to Germany at the end of 1957.

As the chief of the British Naval Air Mission to Germany, Brown's role was to reestablish the German Naval Air Arm.¹³⁴ By 1935, the German Navy had essentially lost its aviation branch to the Luftwaffe.¹³⁵ "Total control of all military aviation, whether land- or sea-based, was vested in the air force" and "the Luftwaffe met all naval and coastal air requirements."¹³⁶ "The Luftwaffe was the favorite son of the regime"¹³⁷ and Goering exercised great influence as Hitler's deputy and the Luftwaffe chief.¹³⁸ A "personal animosity" further prompted Goering to completely strip aviation from the German Navy.¹³⁹ Commander Brown was responsible for returning German naval aviation to its previous glory after a 22-year hiatus.

Commander Brown spent a large part of the first half of 1958 interfacing with German naval leadership and training the German Navy's initial pilots. He worked closely with Rear Admiral Wagner of the German Naval Staff, the last surviving signatory of Germany's unconditional surrender. Clearly, Brown's role required "great diplomacy and tact."¹⁴⁰ His team spent a large amount of time in the United Kingdom, helping the Germans train on Sea Hawks and Gannets. He had a small plane owned by the German Navy as his personal transport to survey naval bases around Germany. Brown was amazed at "the pride taken in this solitary aircraft by the German Navy," but was not surprised considering it was the first aircraft since the 1930s that was exclusively theirs.¹⁴¹ Brown led the first operational unit of the German Navy Air Arm onto German soil from Britain in June 1958; it was a great day for the resurrected Marineflieger. It was even a greater day "when the squadrons were finally assigned to NATO in 1960."¹⁴² German naval aviation had finally been restored, thanks to help from Eric Brown.

Commander Brown did not expect to be acting as a test pilot from his position in Germany. However, the Focke-Wulf Company had recently lost their test pilot and needed help. In order to maintain their flow of aircraft, the Germans agreed to allow Brown to fill-in part time with the company until a suitable replacement could be found. Brown had now come full circle with Focke-Wulf: flying against its aircraft in combat, learning lessons from captured Focke-Wulf aircraft after the war, and now flying its new aircraft to help rejuvenate its operations. He had been to the Focke-Wulf Company shortly after the war when it had been largely destroyed. Now it was back in operation and making great strides. Brown was amazed at its resurgence and believes that the “power to revitalize its broken body is perhaps Germany’s most amazing characteristic.”¹⁴³

Brown met several German military legends while he restored their naval air arm. Brown described Otto Kretschmer, the top U-boat ace, as someone who “exuded quiet efficiency” as he pursued an “unending quest for perfection in his profession.”¹⁴⁴ He thought Adolf Galland, the famous Luftwaffe fighter pilot, was as “flamboyant” as his image.¹⁴⁵ Brown’s most notorious meeting occurred at a submariner’s funeral in late 1958, which Brown had attended with a contingent from the Marineflieger. Unexpectedly, Grand Admiral Karl Doenitz attended as well. The former German naval leader and Hitler’s successor had recently been released from prison for war crimes.¹⁴⁶ Brown was as surprised to see him as Doenitz was to see a British officer among the Germans. Eerily, the German officers broke ranks after the funeral and “swarmed around” Doenitz.¹⁴⁷ The officers cheered the former grand admiral, which “he acknowledged with a wry smile” before departing.¹⁴⁸ Nationalistic feelings still lingered in Germany and this shocked Commander Brown who was working hard to restore their military strength.

In December 1960 Brown was promoted to Captain and assigned to the Admiralty in London. Captain Brown used his wartime experience to lead weapons development for the Fleet Air Arm. Shortly thereafter, he was promoted to the deputy director of naval air warfare, a position in which he was uniquely qualified. He had flown hundreds of aircraft and had performed thousands of carrier landings; he knew the specific qualities needed for naval aviation and formed operational requirements for the Fleet Air Arm from this position. His biggest task was designing the flight deck layout of the next-generation British aircraft carrier. He worked solidly towards this end for two years and the design was a promising step into the future for the Royal Navy. However, the idea was cancelled by a critical Labour government in 1965.¹⁴⁹ Captain Brown's hard work and creative input had been for naught.

Captain Brown returned to Germany yet again as the naval attaché in 1964 and was able to renew old friendships. A royal state visit in May 1965 allowed Brown to use his contacts throughout the German military to ensure the smoothest possible reception for the Queen and Prince Phillip. The royals were to depart from Germany at the end of their 10-day trip on Her Majesty's Royal Yacht *Britannia*, giving a large role in the event to the German and British navies. Brown was in the midst of both organizations, and was yet again the ideal person for this role. The event went off without a hitch, and Captain Brown was able to personally escort the Queen and Federal German President Lubke.¹⁵⁰

During this tour, Brown was also able to meet more leading German figures of World War II. The German Air Museum wanted a complete Me 163B for display, and asked Captain Brown to help them find a rocket motor. Of course, Captain Brown had a large role in acquiring German technology after the war, and was able to find a suitable engine in storage at Farnborough for the museum. The unveiling ceremony allowed Captain Brown to talk to Dr.

Willy Messerschmitt, whom he had interrogated after the war. He also compared notes about the Komet with Dr. Helmuth Walter who had invented the rocket motor, Rudolf Opitz who had made the first flight in the Komet, and former Messerschmitt chief test pilot Fritz Wendel.¹⁵¹ It was a great opportunity for Captain Brown to learn more about an aircraft that he considered well ahead of its time.

Brown ended his military career as the commander of Royal Naval Air Station, Lossiemouth. Three weeks before his retirement in 1970, he was flying a helicopter over hilly Scotland in the dead of winter. His crew included a newspaper reporter who was to get an airborne view of the heavy snowfall. Fortunately for the reporter, he was flying with one of the world's most experienced pilots. At 800 feet, a loud bang alerted Brown that his piston engine had failed. He quickly assessed the situation, but found the ground features indistinguishable in the deep snow. He did, however, notice a wire fence as they were quickly descending. He proceeded to hook his tail skid to the wire and make a safe arrested landing.¹⁵² This was the last of Eric Brown's 11 major aircraft accidents, and as he had done before, he had cheated death yet again.

Conclusion – A Note from the Grave

After a distinguished 31-year career in the Royal Navy, Captain Brown could not give up his involvement in aviation upon retirement. He became the chief executive of the British Helicopter Advisory Board and chief executive and vice president of the European Helicopter Association. He also authored several books, mostly about aviation, and served as at the president of the Royal Aeronautical Society.¹⁵³ He continues to lecture on his rich experiences and share his historical insights with others.

Brown's relation to German aviation did not end upon his military retirement either. In August 1979, Brown surprisingly received a letter from Hanna Reitsch. She commented on their common bond "of flying and of danger," but noted how no one "really understood her passionate love of the Fatherland."¹⁵⁴ The letter ended mysteriously with the words: "it began in the bunker, and there it shall end."¹⁵⁵ She died a few weeks later of an apparent "massive heart attack."¹⁵⁶ Even though no post mortem was performed on her body and few have commented on it, Captain Brown believes that the cause of her heart attack was indicated in that letter's eerie last words. Reitsch and Robert Ritter von Greim were friends, companions, and possibly lovers.¹⁵⁷ They had planned to commit suicide shortly after leaving Hitler's bunker in April 1945 with the poison capsules Hitler had given them; von Greim was to go first with Reitsch following a week later so that it was not an obvious suicide pact.¹⁵⁸ Robert Ritter von Greim used his poison capsule on 24 May 1945, but Reitsch did not immediately follow him as planned.¹⁵⁹ Based on clues from a letter that only Eric Brown received, she may have actually followed him 34 years later. Again, Eric Brown's involvement with German aviation played a role in this historical moment.

Brown's last flight was in 1994 at the controls of a French helicopter.¹⁶⁰ Eric Brown imagines that turning in his pilot's license was "like drug withdrawal."¹⁶¹ "You become a nuisance to your wife after you stop flying ... you run around rather demented, not sure what to do with yourself."¹⁶² If the level of dementia is related to the richness of aviation experience, then Captain Brown's mental illness would be unmatched.

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