



Colonel Bernt Balchen: Polar Aviator, Arctic Innovator

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Abstract

Norwegian-American Bernt Balchen's Arctic aviation expertise, innovative approaches to Arctic challenges, and development of successful Arctic search and rescue procedures significantly advanced Arctic security, Arctic aviation safety and Arctic operations from the 1920s through the 1960s. This contribution rested on Bernt's pursuit of both formal and experiential learning and training, his keen observation skills, analytical approach and applied solutions to problems, his successful partnerships and engagement with an international array of aviation and Arctic enthusiasts as well as the general public, and his continuous passion for the Arctic, cherishing its beauty, respecting its challenges and envisioning its potential. The newest Department of Defense Regional Security Center, the Ted Stevens Center for Arctic Security Studies, shares Bernt's passion for the Arctic. Through education and training, research and analysis and engagement and partnership, TSC leverages soft power to promote a secure, stable and peaceful, and prosperous Arctic. Examining Bernt Balchen's legacy provides a useful reflection that helps to contextualize the relevance of TSC in addressing contemporary and future Arctic security issues.

Keywords: Arctic security, Arctic aviation, search and rescue, polar exploration, Greenland, Norway, World War II Arctic operations, Ted Stevens Center, Bernt Balchen



“When you fight in the Arctic, you fight on the Arctic’s terms” (Balchen, War Below Zero, 1944, p. 14)



Colonel Bernt Balchen, 1953. Source: SMS 13, Bernt Balchen Collection, Box 3, Clark Special Collections, McDermott Library, United States Air Force Academy

Colonel Bernt Balchen was a charismatic Arctic aviation and operations expert whose many accomplishments included being the first to fly over the South Pole as part of Admiral Byrd’s 1928-30 Antarctica expedition, executing daring World War II air support operations to supply Norwegian resistance fighters, directing arduous Arctic rescue missions in Greenland and Alaska, and overseeing the construction of the massive Cold War base at Thule. Throughout this time, Bernt’s Polar aviation expertise and Arctic innovations advanced both Arctic security and aviation safety. This is particularly true of his time at the helm of the 10th Air Rescue Squadron (ARS) in Alaska which with its steadfast presence and innovative techniques served both the military and civilian population of Alaska. The daily work of the newest Department of Defense regional center, the Ted Stevens Center for Arctic Security (TSC), is constructed upon a

foundation and legacy of many whose vast experience and contributions to the Arctic are vital components of our current capabilities. Col Bernt Balchen is one of these Arctic luminaries.

Established in 2021, the Ted Stevens Center for Arctic Security Studies (TSC) is tasked by the Secretary of Defense to “build strong, sustainable, domestic and international networks of security leaders and promote and conduct focused research on Arctic security to advance DoD security priorities in the Arctic region.” As a regional DoD center focused on the Arctic, TSC serves as a venue for bilateral and multilateral research, communication, exchange of ideas and training, and its work includes engagement with military, civilian and governmental partners. Through its three lines of effort: executive education, research and analysis, and strategic engagement, the Ted Stevens Center mission focuses on deepening understanding of the Arctic, to include its potential, challenges across the wide spectrum of security issues, and how to enhance the ability to operate effectively in the Arctic (About the Ted Stevens Center for Arctic Security Studies).

Bernt Balchen through his active engagement and vigorous advocacy, played a pivotal role in many of the major military aviation and polar exploration advances from the 1920s through the 1960s. As an Arctic luminary, his leadership and overwhelming enthusiasm greatly influenced US World War II and Cold War Arctic policy. Additionally, Bernt played a critical role in training the next generation of Arctic experts to ensure a permanent US role in the Arctic (Grant, 2010). Bernt’s Arctic contribution rested on his tenacious pursuit of both formal and experiential learning and training, his keen observation skills, analytical approach and applied solutions to problems, his successful partnerships with an international array of aviation and Arctic enthusiasts and engagement on Arctic issues with a wide audience, and his continuous passion for the Arctic, cherishing its beauty, respecting its challenges and envisioning its



potential. Examining Bernt Balchen's legacy in these areas provides a useful reflection that helps to contextualize the relevance of TSC in addressing contemporary and future Arctic security issues.

The Important Foundational Role of Formal and Experiential Education and Training

Bernt Balchen sought opportunities to learn both in the classroom and through first-hand experience. This included engineering degrees as well as countless hours spent hunting, fishing, hiking, skiing and camping, first in the forests of his native Norway, and later across the Northern European and North American Arctic. Throughout his life, Bernt traveled with a small notebook and would use it in his spare time to capture his surroundings through sketches or to tackle complex math problems (Glines, Bernt Balchen Polar Aviator, 1999). Bernt was indeed a lifelong learner and bequeathed his over 1000 books on topics ranging from Arctic exploration, polar seas, strategy, dynamics of flying, ordinance navigation, airplane structures, drawing, art and color, guns, hunting, and shooting to the library at the US Air Force Academy to enhance cadet learning (Bernt Balchen Inventory. USAFA Donor Box(ARH-BAL)).

Bernt's military education and training were prolific and protean. He first joined the French Foreign Legion in 1917. Before he saw combat, Norway recalled him for mandatory service in Norway. In the aftermath of the World War I Armistice, Bernt volunteered to fight with Finland's White Forces against the Bolshevik supplied Red Forces. Severely wounded by a Russian bayonet during a cavalry charge, Balchen recovered from his wounds, joined the Royal Norwegian Naval Air Force (RNAF) and by 1921, had graduated from pilot training. Balchen loved aviation from the start, became an instructor and test pilot and began accumulating Arctic aviation experience. Balchen wasn't just fascinated by flying but learned and honed his skills as a navigator and mechanic. A skilled carpenter with a proclivity for math and engineering, he



designed and constructed Arctic capable gear and equipment to include skis for both personnel and planes. Along the way, Bernt accumulated numerous awards for ski racing and ski jumping along with becoming an Olympic class boxer. Bernt actually turned down the opportunity to represent Norway in Olympic boxing in 1924 so that he could attend pilot training (Glines, Bernt Balchen Polar Aviator, 1999).

All these skills and his depth of knowledge were born of extensive education, training and experience in the field. When he found he had extra time available during his military service to Norway, he enrolled and completed an advanced degree in forestry engineering in Sweden. Bernt flew whenever he could and accumulated as much experience in Arctic flight as possible. In Norway, frequent cloud cover and lack of visibility meant Bernt became adept at instrument flying, a skill that few aviators at the time had adequate proficiency in (Glines, Bernt Balchen Polar Aviator, 1999). Later while serving as an engineer and chief test pilot for Tony Fokker at his New Jersey aircraft factory, Bernt's skills made him the perfect choice to assist Western Canada Airways for four months, flying and repairing Fokker aircraft in remote locations in the Canadian Arctic. Bernt maintained these planes outside, often camping next to the aircraft. He flew with no heat, no radio, no weather service updates in flight, and in an open cockpit.

This education and experience served him well while piloting Richard Byrd's aircraft *The America* across the Atlantic through 40+ hours of instrument flying. When lack of fuel and cloud cover precluded landing in Paris or any other French airfields, Bernt brought the plane safely down on the water, saving everyone on board. During Byrd's 1928-1930 expedition to Antarctica, it was Bernt who successfully flew the first aircraft over the South Pole after overcoming numerous challenges during the flight (Glines, *The Amazing Bernt Balchen*, 1998).



Bernt's instrument flying skills also benefitted Amelia Earhardt. It was Bernt who trained her in instrument flying, along with testing her aircraft prior to her becoming the first woman to fly solo across the Atlantic (Glines, *The Amazing Bernt Balchen*, 1998).



Balchen preparing for the flight of the *America* from New York to France, 1927. Source: SMS 13, Bernt Balchen Collection, Box 3, Clark Special Collections, McDermott Library, United States Air Force Academy

Granted US citizenship in 1931, Bernt was eligible to serve in the US military. In 1941, he received a commission as a captain in the US Army Air Force (USAAF) along with an urgent mission from the USAAF Commander General Hap Arnold to set up the Blue West 8 base in Greenland. From here, Bernt directed and participated in perilous search and rescue operations for aircraft that crashed on Greenland's ice cap (Glines, *The Amazing Bernt Balchen*, 1998). Bernt had considerable search and rescue experience already, and he immediately instituted an extensive training regimen for his troops. This included history, geography, skiing and survival; all areas Bernt viewed as important Arctic competencies (Glines, *Bernt Balchen Polar Aviator*,

1999). Bernt's unique disciplinary technique involved a twenty-mile ski on the ice with the offender, which proved effective in preventing a repeat of the problem (Harrison, 1980).

In 1948, when Bernt took the helm of the 10th Air Rescue Squadron in Alaska, his then thirty years of Arctic education, training and experience played an important role in the unit's stunning successes. After arriving in Alaska, he immediately instituted weekly long distance hikes carrying thirty pound packs. He would have his troops camp out in varying terrain from Aleutian muskeg to frozen Arctic tundra. Invoking the words of Norwegian explorer Roald Amundsen, "In the Arctic you must always be prepared for the worst, and then whatever happens will be easier" (Balchen, *Come North With Me*, 1958, p. 304), Bernt worked to ensure the 10th was ready for operations in Alaska. His training included instruction in the use of skis, preheating engines in cold weather, landing on snow, ice and ice floes as well as polar navigation. Bernt also passed on his knowledge of runway construction in remote locations and survival and rescue techniques (Balchen, *Come North With Me*, 1958). Bernt's work in Alaska included expanding the Arctic Indoctrination Center located in Nome to ensure its students were familiar with the variety of conditions to include tundra, forests, fjords, glaciers mountains and plains (Glines, *Bernt Balchen Polar Aviator*, 1999).

Bernt made it his mission to ensure a legacy of trained polar pilots who could carry forward this Arctic aviation expertise into future missions. 10th Air Rescue Squadron personnel had to be prepared to operate under varying conditions and with methods best tailored to the situation. Thus, they trained in and flew everything from long range B-17s, C-54s, C-47s, to gliders, small planes, amphibious aircraft, and helicopters. 10th Air Rescue personnel were ready and able to transit Arctic terrain on foot and could construct and live in sod huts, tents and snow shelters depending on material available (Davidson, *Rescue Below Zero*, 1949). Under Bernt's



tutelage, the 10th ARS conducted an exercise to land a crew on an ice flow north of Barter Island and erect a lab and radio station. This training demonstrated the efficacy of US operations on Arctic ice floes. This paved the way for later Naval, Air Force and civilian scientific research on ice islands and greatly contributed to research on Arctic ice (Grant, 2010).

Seeking Solutions to Complex Problems through Observation, Analysis and Application

Bernt was a quintessential problem solver. Bernt's Chief of Staff during World War II wrote that he "had an uncanny ability to pop up where his skills were most needed" (Glines, Bernt Balchen Polar Aviator, 1999, p. 200) During Roald Amundson's attempt to be the first to fly over the North Pole, he dispatched Bernt to assist his rival, Richard Byrd, who had broken the ski landing gear on his aircraft. Bernt helped design and craft new skis from the oars of Byrd's ship and then assisted Byrd's crew with optimizing glide to enable takeoff. Byrd went on to be the first to attempt the North Pole flight. Later while a member of Byrd's expedition to Antarctica, Bernt helped design a new tent. Expedition members utilized the Bachen-Ronne tent at the South Pole and both the US and Norway later used the design in World War II (Glines, Bernt Balchen Polar Aviator, 1999).

While in Greenland, Balchen not only furthered his already extensive knowledge and expertise in Arctic air operations but became the acknowledged air expert for successful Arctic search and rescue. After establishing the base and training his men, Capt Balchen found himself heavily engaged in the arduous and complex task of effecting rescue of the aircrews that found themselves trapped on Greenland's ice cap. This included innovative landings and takeoffs as well as constructing both permanent and emergency infrastructure to support military operations and military operators. Bernt became familiar with the challenges of construction over permafrost and learned to start with gravel and then a concrete slab. This knowledge would



greatly facilitate the later Cold War construction of Thule Air Base. During this period, Balchen and his men employed naval amphibious aircraft, gliders, dog sleds and skis to bring aircrews safely off the ice. Bernt further developed optimal techniques for aircraft operations in Alaska with new innovations in ski landings and use of gliders. He experimented with helicopters, designed Arctic hangars and heated shelters and began using electronic devices to send a signal to ground personnel so the pilot could receive distance and directional data (Glines, Bernt Balchen Polar Aviator, 1999).

Greenland's dangerous terrain, unpredictable weather and extreme temperatures brought challenges to every rescue. Bernt reassured aircrews that he would leave no stone unturned in their rescue and would find them even if he had to "crawl there on his knees." (Drake & Drake, 1953, p. 38). In one case, Balchen's search for a suitable landing spot yielded only a temporary lake formed by a dimple on the ice. Bernt Balchen and a Navy pilot thus landed a PBY Catalina amphibious aircraft, skied 12 miles over crevasses and treacherous ice bridges, returned with the injured crew, and flew out again before the lake drained a few days later. In another rescue of a B-17 crew that had gone down on the ice while searching for a lost C-53 Transport, Balchen mobilized his team. After retrieving the crew and transporting them over the ice to the rescue plane, Balchen's team attempted to take off. Unfortunately, the aircraft engine became damaged and as the plane would be unable to handle the weight of all the men, Balchen and three of his men skied 80 miles over the ice cap to reach the coast and sent the plane home with the others (Glines, Bernt Balchen Polar Aviator, 1999).

Balchen applied his Arctic expertise beyond search and rescue. German weather stations constituted a danger to Allied shipping and aircraft. Several of the crashes on Greenland's ice were due to misdirection from the German stations. Since Blue West 8 supported both vital



aircraft transport to Britain as well as efforts to search for German submarines, Balchen's crews were always on the lookout for German weather stations. When one was discovered on the northeast coast of Greenland, Bernt led a successful B-24 and B-17 bombing raid on the station (Glines, Bernt Balchen Polar Aviator, 1999). Fluent in German, Bernt questioned one of the captured Germans and ascertained that he had prewar expertise in geology and the Arctic. This appeared to confirm Bernt's prewar claims that German scientific expeditions in the Arctic had been for military applications (Grant, 2010) After conducting probably the northernmost bombing mission of the war, Bernt lobbied for a new assignment to the northern European arena where he could make use of his familiarity with the land, the languages, and his personal connections.



Bernt and his crew preparing to attack a German weather installation at Sabine Island, Greenland. Source: SMS 13, Bernt Balchen Collection, Box 3, Clark Special Collections, McDermott Library, United States Air Force Academy

Bernt transferred to the northern European theater with a mission to help drive the Nazis out of Scandinavia. Assigned to the US Office of Strategic Services (OSS), Bernt worked tirelessly to evacuate Norwegians and other Allied forces stuck in neutral Sweden and to directly

support Norwegian resistance in German occupied Norway. During Operation Sonnie in Sweden, Balchen avoided German detection by flying at night and in bad weather and using fake flight plans. His language skills, knowledge of the terrain and many contacts helped smooth over any difficulties while on the ground in Sweden. He even was able to procure a new cylinder head for one of his aircraft from the Germans in Sweden.

Following the success of Operation Sonnie, Bernt commanded Operation Ball which focused on supply missions for Norwegian resistance forces. Again, Bernt flew in bad weather but as it was summer in the Arctic during this operation, flying in the dark was not an option. Bernt resorted to flying very low attitude and in and out of fjords to escape detection (Glines, Bernt Balchen Polar Aviator, 1999). On one occasion, after landing near the Finnish Norwegian border, his plane got stuck in the snow. He had to build a 1,000 ft runway on the ice overnight and took off the next day with a turn in front of German firing positions. In his typically modest way, he called it “quite an experience” (Glines, Bernt Balchen Polar Aviator, 1999, p. 194) Due to Balchen’s familiarity with Norway and his numerous contacts, he was able to slip in and out of Oslo to meet resistance fighters. Balchen taunted the Gestapo by mailing a postcard postmarked from occupied Oslo and leaving a copy of the London Times in the reading room at Gestapo headquarters (Davidson, Viking on the Ice, 1950).

His bravery, skill and audacity in operating under the noses of the Germans earned him the respect and admiration of his crews and a glowing recommendation from William Donovan the head of OSS who praised him for transporting 64 tons of operational supplies from July to October 1944 from Scotland to Northern Norway in, “one of the most outstanding series of operations undertaken during the war” (2 July 1944 Letter of Commendation, 1944). The US Attache in Sweden recommended Bernt receive the Legion of Merit for evacuating 1,700



Norwegian and 800-900 American airmen interned in Sweden without a single loss, as well as providing vital intelligence on the German Air Force and Wehrmacht throughout Scandinavia (11 Dec 1944 Letter of Commendation, 1944; 2 July 1944 Letter of Commendation from OSS Chief Major General William Donovan to the Commanding General of Air Transport Command, 1944). In a 1975 speech, King Olav V of Norway called Balchen, “one of the greatest of our pilots, an explorer and pioneer” and noted “In our darkest days, he helped to nourish and sustain the resistance in Norway” (Speech of H.M. King Olav V of Norway at the New York Wings Club, 1975). A gunner on Balchen’s crew summed up Bernt’s remarkable military skills stating, “Balchen had a built in compass in his brain.” He also praised him as the “best flier, the best navigator, and the most deadly soldier I ever knew” (Glines, *Bernt Balchen Polar Aviator*, 1999, p. 181). During these missions, weather was a constant problem and reporting it accurately a major challenge. A US meteorologist who had studied at MIT provided the weather briefs which Bernt always attended. Bernt would thank him for the brief and then point out “But we are now in the Arctic regions and the weather should be like this...” frustrated, the meteorologist said even with his four years’ experience, he was struggling and Bernt was “always right, in his considerate way” (Glines, *Bernt Balchen Polar Aviator*, 1999, p. 196).

From a Bolshevik bayonet to Soviet machinations in Northern Norway in the waning months of World War II, Bernt remained wary of Soviet intentions. The Cold War only cemented his concerns that Russia posed a threat in the Arctic. In his autobiography, Bernt recalled a May 1945 dinner at the Russian headquarters in Kirkenes during which the Soviet officer sitting across from him raised his glass and declared, “Colonel American Balchen, we drink to you, but one day in the Arctic we will be fighting you” (Balchen, *Come North With Me*, 1958, pp. 296-297). During his time in Alaska, in addition to all his other duties, Bernt closely scrutinized the



region for Soviet military activity and to identify locations suitable for North American defense assets. He viewed deterrence as a key pillar of US and NATO defense and stated in his autobiography that, “It is the Soviet’s suspicion of our ability to strike back...that is the greatest single deterrent to attack today” (Balchen, *Come North With Me*, 1958, p. 309).

Based on his experience with aggressive powers and his vast military and aviation knowledge, he concluded that the West could not afford to be complaisant about defending the Arctic.

According to Bernt Balchen, “On a strong Arctic depends peace in the air age” (Balchen, *Come North With Me*, 1958, p. 310).

Bernt recognized that both Western security and search and rescue in the Arctic required strategically located Arctic bases. He began advocating for a US base on the northwest coast of Greenland in 1942. In 1950 Bernt submitted a paper to Air Force Secretary Stuart Symington proposing a central search and rescue organization for all northern military operations calling it a “sort of Arctic NATO.” He envisioned a base constructed at Thule as a centerpiece for these Arctic operations along with serving as a base for military aircraft and civilian aircraft emergencies. He later discussed creating a base at Thule with Symington’s successor Thomas Finletter (Balchen, *Come North With Me*, 1958, p. 305). Bernt’s recommendations came to fruition when the USAF Chief of Staff assigned him as the project officer for Operation Blue Jay. This was the code name for the secret construction of Thule Air Base, currently known as Pituffik Space Base.





Bernt Balchen at site of future Thule Air Base, March 1951. Source: SMS 13, Bernt Balchen Collection, Box 3, Clark Special Collections, McDermott Library, United States Air Force Academy.

Bernt oversaw its construction and arrived in February 1951 with a surveying party to face -40 temperatures and 95-100 mph winds. Due to the particularly harsh winter, the main construction force did not arrive until 9 July but with over 10,000 men and 300,000 tons of equipment and supplies, the new 10,000 foot runway was ready for aircraft by early September (Glines, Bernt Balchen Polar Aviator, 1999). After making the first landing on the new runway, General Curtis LeMay, commander of Strategic Air Command told Bernt, “here’s a place I can fight from” (Balchen, Come North With Me, 1958, p. 306). Beside the massive runway, the base included barracks, fuel storage, offices, warehouses, heated hangars, the world’s largest salt water distillery and the second tallest radio tower. With this level of construction, Thule was not long a secret and once public, helped encourage civil aviation to undertake polar flight routes, even in the winter (Glines, Bernt Balchen Polar Aviator, 1999). Bernt led the first public visit of 36 journalists in October 1952 to examine the newly established base (Grant, 2010)

Enhancing Capabilities and Success through Engagement and Partnership



Balchen deeply understood the need for partnership when it came to the North. Throughout his life, he transitioned seamlessly between the European and North American Arctic and his expertise, charisma, positive attitude and problem solving aptitude meant he was never wanting for either work or friendship. When he first started working in the US in the 1920s, he joined a group called the Quiet Birdmen and he interacted with the leading aviators of his day including Billy Mitchell, Ira Eaker, Carl Spaatz, Jimmy Doolittle and Hap Arnold. He heard Mitchell's views on aviation as a vital element of national power as well as "the potential of the Arctic as an aerial crossroads for world commerce" (Glines, Bernt Balchen Polar Aviator, 1999, p. 19) These ideas would percolate in his mind over the years as he exchanged ideas with fellow civilian and military aviators. As an Arctic aviator, Bernt felt it was imperative to inform the public of the importance of the Arctic in the new age of aviation. At a 1954 speech to the Explorer's Club in New York, Bernt underscored this point, "The development of long-range aircraft has completely changed our world. Places that are the farthest apart by ordinary geography are much closer by air over the Pole...The Arctic is no longer a cold spot but the "hot spot" on our planet" (Glines, Bernt Balchen Polar Aviator, 1999, pp. 244-245).

Bernt's international experience and connections proved useful in facilitating acquisition of the most effective Arctic capable equipment. From his time flying in the Canadian Arctic, Bernt had worked with Bob Noorduyn, whose design for the Canadian Norseman aircraft had produced an aircraft hardy enough for Canadian bush flights. The aircraft began production in 1935 and Bernt recommended it for USAAF operations in the North. It was modified to increase fuel capacity and range, designated the C-64A Norseman, and used effectively in Alaska and Europe. The Norseman was equipped with skis, wheels and pontoons for versatility in Arctic flying (Balchen, Come North With Me, 1958). When preparing for Byrd's Antarctic expedition,



Bernt received the important task of traveling to Norway to secure both an ice breaker as well as Arctic experienced personnel. Norway was the acknowledged leader in ice breaking vessels and Bernt's Norwegian connections optimized the expedition's resources (Knight & Durham, 1950, p. 132).

Bernt viewed partnership in the Arctic and engagement with key stakeholders as a lifelong mission. In 1935, Bernt returned to Norway to take a job developing civil aviation in Norway. During this time, he met personally with President Roosevelt to brief him on partnership to begin transatlantic operations. With the endorsement of the president, he negotiated the first bilateral air agreement between Norway and the US (Glines, *The Amazing Bernt Balchen*, 1998). Back in Europe during this pre-World War II period of German military buildup, Bernt also provided valuable intelligence to both the Norwegian and American governments on German military developments as he often traveled to Germany due to his work for Det Norske Luftfatselskab (DNL), the Norwegian national airline. Due to his connections with the German aviation community along with his fluent German, Bernt had access to German aircraft and military equipment (Glines, *The Amazing Bernt Balchen*, 1998) (Glines, *Bernt Balchen Polar Aviator*, 1999). As the Germans continued to flout the Versailles Treaty, he recognized, with increasing alarm, a rising threat emerging. After hearing both Hitler and Goebbels speak at a 1936 political rally, Bernt reflected on the existential danger inherent in nature of the Nazi regime. Bernt's description of the event portended the struggle that was to come. He wrote:

It was terrifying to see the masses and the power that propaganda and speech had...When I heard the surge of voices, like an ocean, and saw the Nazi flags with the swastikas, and the torches and heard the Sieg Heil, it scared me. I realized then that we were up against



an ideology that looked medieval to me (Glines, Bernt Balchen Polar Aviator, 1999, p. 123).

Four years later, Bernt's home country would fall victim to the Nazi onslaught. When Germany invaded Norway in 1940, Bernt was back in the US on a mission from the Norwegian government to procure much needed equipment using his extensive network of contacts in the US. He continued to advocate for assistance to Norway to include establishing a training base for Norwegian airmen in Canada. Eager to contribute to the war effort, Bernt was ferrying aircraft across the Pacific for the British Royal Air Force in 1941 when he got the call from Hap Arnold to stand up Blue West 8 (Glines, Bernt Balchen Polar Aviator, 1999).

After World War II, Bernt connected with his many aviation contacts in Scandinavia to reestablish civil aviation in Scandinavia through partnership between Norway, Sweden and Denmark. This would lead to the creation of the Scandinavian Airlines System (SAS). In addition, through his many connections with civil aviation in Norway, Balchen helped advocate for reconstruction of the airfield near Stavanger, Norway with a runway long and strong enough for US bombers. In fact, senior US military personnel had granted Balchen a leave of absence from US military duty to answer Norway's call for assistance with reconstituting civil aviation along with a secret mission to enable capabilities in case the US needed to operate from a northern Norwegian base. Balchen's mission was not lost on the Soviets who mentioned his support of the US polar strategy in an article in the Soviet newspaper *Literaturnaya Gazeta*.

In 1948, Balchen returned to the US and was sworn back in to active duty. In the Pentagon, he met with Maj Gen Joseph Atkinson, the commander of Alaskan Air Command. Atkinson wanted Balchen to lead development of Arctic search and rescue and survival training in Alaska. At that time US concern over the Soviet threat was driving increased interest in



strengthening defenses in the Arctic. The military needed to develop better knowledge of Arctic operations, keep an eye on Soviet activity, and train US military personnel to survive and operate in the Arctic. Balchen was the perfect problem solver for all three of these missions. Before offering him the job, Atkinson asked Balchen if he liked to hunt and fish, Bernt enthusiastically replied, "I'd rather hunt and fish than eat!" (Glines, *Bernt Balchen Polar Aviator*, 1999, p. 212). It was clear Bernt would be right at home in Alaska.

Thus, Bernt Balchen arrived in Alaska on 11 November 1948 to assume command of a very busy 10th Air Rescue Squadron (ARS) (Glines, *Bernt Balchen Polar Aviator*, 1999). The work of the 10th relied on a close relationship and partnership with other government agencies and the public. The 10th ARS had detachments located at Ladd Field in Fairbanks, Elmendorf Field in Anchorage and at Adak Naval Station in the Aleutians. A 24 hour a day rescue coordination center operated from Elmendorf and synchronized search and rescue support to include civilian agencies (Cloe, 1984). The 10th would receive alerts through military channels when military aircraft failed to radio in their position and the Civil Aeronautics Administration radio stations throughout Alaska would relay messages they received. The 10th would also receive direct phone calls and other radio transmissions notifying them of an emergency. The 10th responded to both military and civilian emergencies in an area that included the Gulf of Alaska, the Bering Sea, the Aleutian Chain and 1,200 miles of Arctic Ocean up to the North Pole. This was an area of responsibility larger than the US. Besides the vast size, Alaska's dearth of roads and railways along with its widely varying terrain and challenging weather made search and rescue exponentially more complex than in the rest of the US (Davidson, *Rescue Below Zero*, 1949).



The 10th provided a lifeline during emergencies for Alaskans. During Bernt's tenure as commander, the 10th flew over 1,300 rescue missions, an average of one every 2.5 days (Isakson, 1972). Known both as the Guardian of the North and as Balchen's Busy Bees due to the distinctive painted yellow wings, the 10th responded to far more civilian calls for assistance. Of the rescues, nearly seventy five percent of them were for civilians. Bernt's crews could land in a variety of locations from backyards, roads, lakes and forest clearings and their skills with dog sleds, skis, snowshoes, snow jeeps, swamp skimming weasels and paradrops meant they could reach even isolated settlers in Alaska (Davidson, *Rescue Below Zero*, 1949). The 10th ARS became the glamor unit of the 1950s Air Force in Alaska, admired for its steadfast presence. One Alaskan veteran of the 1898 Gold Rush declared, "The Tenth Rescue Squadron is like the Mounted Police is to Canadians in the Far North. They're always there when you need them. To people like me who live alone in the woods, they're more important than the governor, the legislature, the Department of the Interior and the rest of the United States Government!" (Davidson, *Rescue Below Zero*, 1949, p. 42).

During Bernt's time in Alaska, the 10th supported a variety of missions besides search and rescue in which they engaged with both the public and the scientific community. They flew vaccines and supplies to remote villages (Davidson, *Viking on the Ice*, 1950). They also provided transport and resupply for expeditions such as the Harvard Mountaineering Club's ascent of Mount St Elias (Davidson, *Rescue Below Zero*, 1949). Scientific missions collecting data on the Arctic also received support from the 10th. In August 1949 Balchen himself landed on Taku Glacier near Juneau delivering supplies and equipment to Naval scientists using a C-47 with a special retractable ski wheel landing gear; the first landing on a glacier with such a heavy aircraft. After proving this capability, he made a similar landing on a glacier at Mount Logan, the



second highest mountain in North America, located in Canada's Yukon Territory (Glines, Bernt Balchen Polar Aviator, 1999).

Wanting to test the efficacy of polar flights from Alaska to Europe and both the opportunity and danger such a capability represented, Balchen asked for permission to fly a C-54 from Fairbanks to Oslo. On this mission he crossed the North Pole and surveyed the future site of Thule Air Base. This was probably the longest C-54 flight up to that time and it gave Balchen the distinction of being the first person to pilot an aircraft over both the North and South Poles. Balchen hoped his flight would highlight the need for better weather and search and rescue capabilities as well as demonstrate the possibility for future civilian operations over the Polar regions. On his way back, he flew from Oslo to New York and on to Washington DC, proving that such cities were within the reach of bombers launched from the European Arctic (Glines, Bernt Balchen Polar Aviator, 1999).

Bernt understood the importance of partnerships in the Arctic as reflected by Roald Amundson's 1925 advice that their work in the Polar regions should not be viewed as a competition but as a partnership (Balchen, *Come North With Me*, 1958). However, as the Arctic had become more accessible in the air age, Bernt recognized new dangers. The airplane had changed the knowledge and perception of the Arctic, and he felt that as the Mediterranean Sea served as the center of the world for the Romans, "our new Mediterranean is the Arctic Ocean, and the North Pole is the crossroads of tomorrow's travel" (Balchen, *Come North With Me*, 1958, p. 301). He understood the reach of the Arctic meant it was part of a whole that touched multiple regions stating, "Three of the earth's continents, North America, and Europe and Asia, form the ice-covered beaches of the Arctic and the great circle route offered an optimal route for hostile aircraft and missiles to transit" (Balchen, *Come North With Me*, 1958, p. 301). He also



pointed out the Soviets clearly understood the importance of operational control of the Arctic Ocean and began training for this in the early days of the Cold War (Balchen, *Come North With Me*, 1958).

In his autobiography, Bernt mused on the vastness of the Arctic frontier as it extended well beyond the North American continent and with NATO membership, the northern defense line extended 3,000 miles from the end of the Aleutians across to the western border of Russia (Balchen, *Come North With Me*, 1958). Thus, he emphasized partnership with Europe and the strategic importance of Norway to NATO defense. As the Soviets' only access to the North Atlantic was between Norway and Spitzbergen, he referred to this as the "Dardanelles of the Arctic," (Balchen, *Come North With Me*, 1958, p. 309) and urged NATO to ensure this access was blocked if necessary. He worried about Russian designs on northern Norway and saw defense of Scandinavia as critical for security of the West. He found Germany's Admiral Raeder's World War II remark, "Who controls Norway controls the North Atlantic" was equally true from the Cold War Soviet perspective (Balchen, *Come North With Me*, 1958, pp. 296,309).

Passion for the Arctic and Antarctic

Even in the midst of conflict and security concerns, Balchen always harbored a deep love, appreciation and admiration for the North. His small sketchbook captured the beauty he came across in the Arctic. He recognized and prepared for the challenges of the Arctic while at the same time cherishing his time there. As his military career drew to a close, Bernt taught himself to paint and turned many of his sketches into brilliant watercolor paintings. New York's Grand Central Art Galleries hosted the first of several exhibitions of his paintings in 1953. In a *Collier's* article on the exhibit, Bernt explained that even after so many years in the Arctic and Antarctic,



he was still thrilled by the splendor. He commended “its startling beauty,” and explained that “There’s so much to find” (Col Bernt Balchen's Arctic Art, 1953, p. 55).

Bernt also understood that the Arctic and Antarctic were unique and special places. While in Antarctica, he mused, “Somehow our very purpose here seems insignificant, a symbol of man’s vanity and intrusion on this eternal world. The sound of our engines profanes the silence...” (Glines, Bernt Balchen Polar Aviator, 1999, p. 90). While he appreciated the dangers of both places, he also acknowledged the fragility. In his autobiography Bernt warned about thinning ice in the Arctic, rising sea levels and movement of fish species due to warming temperatures. Additionally, he saw risk and opportunity in a future with augmented commercial vessel traffic and greater accessibility of natural resources (Balchen, Come North With Me, 1958, pp. 299-300).

Bernt’s words at the end of his autobiography capture his enthusiasm for the Arctic and his desire to learn from the past while shaping the future.

Today goes fast and tomorrow is almost here. Maybe I have helped a little in the change. So I go on to the next adventure, looking to the future but always thinking back to the past, remembering my teammates and the lonely places I have seen...still hearing the crunch of skis and the howl of the Malemites carrying far away and forever through the thin air (Balchen, Come North With Me, 1958, p. 311).

Conclusion

Bernt Balchen was not only one of the most experienced and knowledgeable Arctic aviators and operators of his era but also a keen observer and analyst. He continually added to his own knowledge and generously shared his expertise with others. He approached challenges in the Arctic with an engineering mind, an aviator’s experience and a deep appreciation of its



splendor and dangers. His contributions to Arctic aviation and Arctic security were wide ranging and hugely impactful. Besides authoring books about his Arctic experience, Bernt was a regular public speaker throughout his aviation career and well into retirement. He warned of the effects of a warming Arctic. He also noted security implications of a changing Arctic, as a potentially threatening Russia meant the West would, “have another ocean to defend” (Balchen, *Come North With Me*, 1958, p. 300). Bernt’s advocacy for Arctic search and rescue has also born fruit. Today in Alaska the Rescue Coordination Center at Joint Base Elmendorf-Richardson continues the legacy of the 10th Air Rescue Squadron by ensuring rapid and effective response to emergencies are coordinated and executed using the best assets available. Bernt’s call for internationalizing search and rescue was taken up by the Arctic Council when they signed an *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* (ACAMSRA) on May 12, 2011, and it entered into force on January 19, 2013. This agreement sets out areas of responsibility and coverage for search and rescue among the Arctic Council states (*Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*).

Bernt’s advocacy for the Arctic resonates with the contemporary work of the Ted Stevens Center. Bernt’s focus on education and training, rigorous analysis and problem solving, and the critical need for partnership and engagement aligns with the Ted Stevens Center’s three lines of effort. Through education, research and engagement, TSC seeks to empower security practitioners in the Arctic with knowledge, skills and networks that bolster a secure, stable and prosperous Arctic. Furthermore, the goal of this work is the development of the enduring conditions of advanced Arctic awareness and DoD Arctic priorities, reinforced rules-based order in the Arctic, effective support to deterrence, and understanding and implementation of climate



change impacts in the Arctic permeated into defense plans (About the Ted Stevens Center for Arctic Security Studies). TSC seeks to engender an appreciation for the Arctic, its challenges, its potential and why security of the Arctic, in all its facets, matters deeply. The security of the Arctic mattered deeply to Bernt Balchen and his work contributed to a secure, stable, peaceful, and prosperous Arctic. The Ted Stevens Center and all those dedicated to a secure, stable, peaceful and prosperous Arctic now carry on this invaluable service.

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