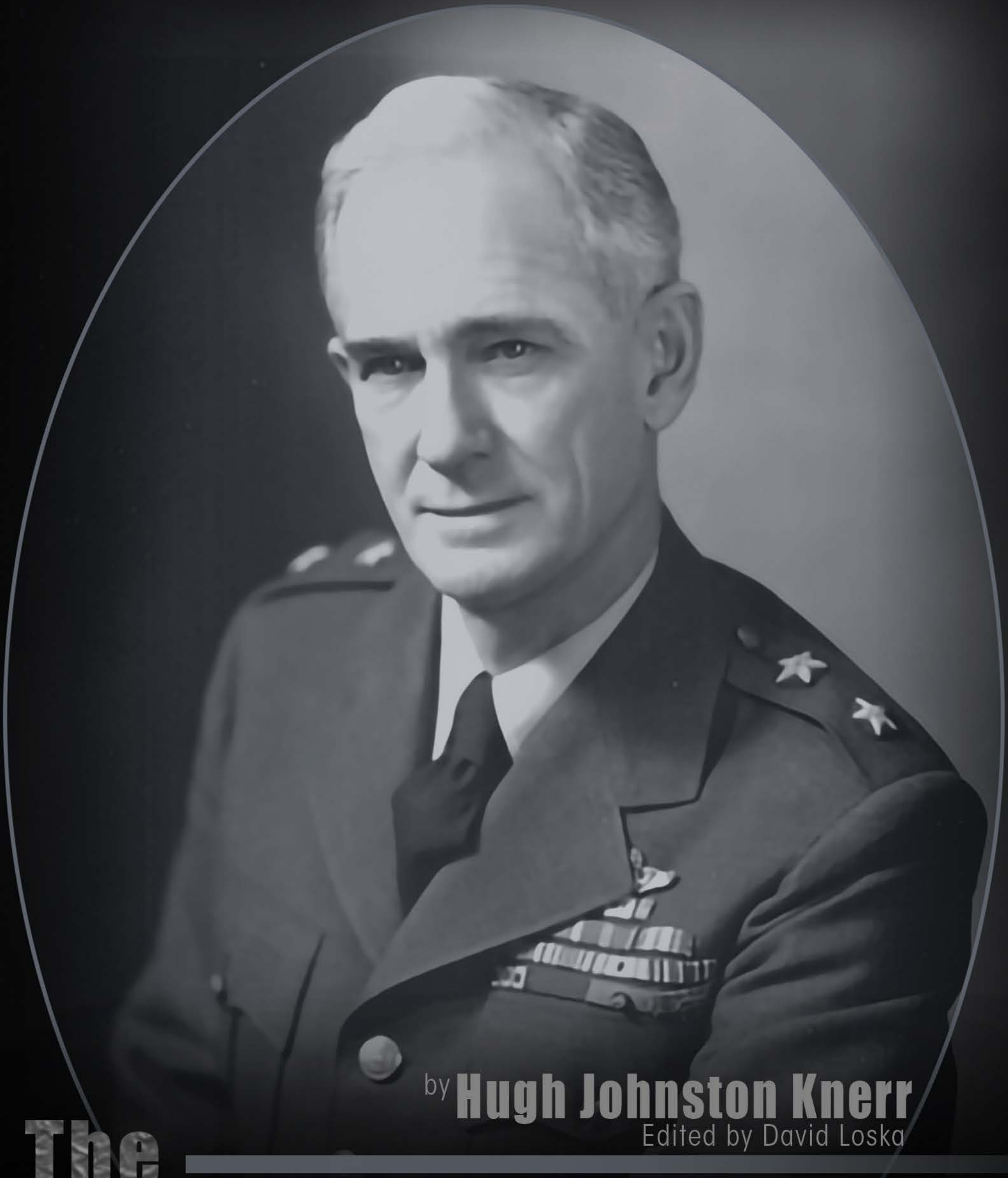

by **Hugh Johnston Knerr**

Edited by David Loska

The VITAL ERA

1887-1950

★ In Which America Nurtured Leaders and Tempered Arms ★

The Vital Era in Which America Nurtured Leaders and Tempered Arms

1887–1950

Hugh J. Knerr
Major General, USAF

Edited by
Captain David A. Loska

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Foreword

Hugh Knerr's memoir traces the life of one of the Air Force's "founders" from his days as a youth on the prairies of Kansas through his service in World War II and efforts to help establish a fledgling United States Air Force. Knerr's service was undoubtedly during a "vital era" for airpower, as warfare in the third dimension revolutionized land and naval warfare, while advanced logistics and technologies also moved to the forefront, assuming their rightful place alongside strategy and tactics. Knerr was at the center of all of these developments, and his life and leadership struggles form a window into an earlier period of transformation change.

Knerr recounts in detail his graduation from the US Naval Academy and brief naval career, and his lifelong hostility to the Navy as a result, shedding light on the interservice squabbles that still retard coordination within the joint force today. As an early advocate for airpower, Knerr was a close associate of "Hap" Arnold, Frank Andrews, and other pioneers and accompanied Arnold on the famous 1934 mission to Alaska. Knerr became a tireless advocate for an independent Air Force and even suggests his recall to active duty during World War II, following retirement in 1939, was motivated, in part, by the War Department's efforts to silence his advocacy for an independent service while a civilian.

But the nation had much to gain from Knerr's continued service in uniform, especially in untangling the complicated logistics that enabled the strategic air war in Europe. Though Knerr's recollections of this period lack detail, his clear understanding of the requirements and his thought process on organizational concepts are still illuminating. Knerr established and led the network of depots that provided essential support to the US Strategic Air Forces in Europe, including the famed Eighth Air Force depot at Burtonwood. Knerr was an innovator in logistics, including aerial resupply, and applied modern sortie generation methods still in use today.

Capt David Loska, an accomplished Air Force logistician in his own right, has done us a great service in bringing Knerr's memoir to a wider audience. We are very grateful to the Special Collections at the United States Air Force Academy's McDermott Library in Colorado Springs for permission to publish the manuscript.

FOREWORD

While the Air Force celebrates the “Masters of the Air” who won the war in Europe 75 years ago, it should also acknowledge the maintainers, logisticians, planners, and other enablers of airpower alongside the brave crews that tempted fate daily in the unforgiving skies over the continent. It is in this spirit that Air University Press is proud to publish *The Vital Era*.

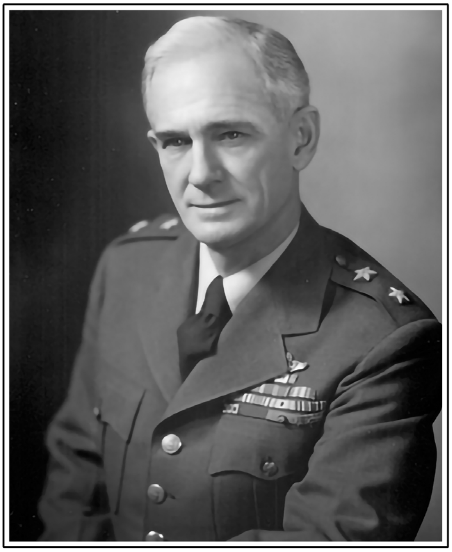
Dr. Christopher M. Rein
Managing Editor
Air University Press

Acknowledgements

A primary source for the overview and introduction is the *VIII Air Force Service Command History 1942–1944,* an over 700-page historical analysis of Air Force Logistics organization in the European Theater of Operations (ETO) during World War II. This effort was conducted by the historical section European Theater of Operations United States Army, commissioned in part, toward the official postwar history *The Army Air Forces in World War II* edited by Wesley Frank Craven and James Lea Cate, University of Chicago. There is no author named for this work; however, it was written in part by Capt Alfred Goldberg, whose interviews with Knerr and others are cited throughout. Goldberg would later co-author *A History of the United States Air Force, 1907-1957* and go on to become a preeminent military historian. The document, located in the National Archives, can be readily accessed as of the date of this publication though *Fold3.com*. This writing also relies heavily on the insights of Murray Green, US Air Force Historian, whose interviews with Knerr span decades and are maintained in the Air Force Historical Research Archives. Green contributed a chapter on Knerr, titled "Hugh J. Knerr: The Pen and the Sword" to the book titled *Makers of the United States Air Force,* published in 1987 by the Office of Air Force History. Green supervised the endowment of the Knerr Papers to the US Air Force Academy, Colorado Springs, Colorado, in 1972.

Finally, and chiefly, the publication of the life story of this Air Force pioneer would not have been possible without the generosity of the friends of the Air Force Academy Library and the Clark-Yudkin Research Fellowship research grant, or without the hospitality of the Clark Special Collections Branch of the Academy's McDermott Library, namely Dr. Mary Elizabeth Ruwell and Ms. Ruth Kindreich, vigilant keepers of Air Force heritage.

Biography



Hugh Johnston Knerr was born in Fairfield, Iowa, 30 May 1887. On 5 June 1908, he graduated from the US Naval Academy at Annapolis, Maryland, and was commissioned an ensign in the US Navy. After three and a half years of service in the Navy, Knerr transferred to the Army, being commissioned a second lieutenant in the Coast Artillery Corps, Regular Army on 28 September 1911. His first assignment in the Coast Artillery was at Fort Monroe, Hampton, Virginia, the second (May 1912) was Fort Casey, Puget Sound, Washington, and his third (December 1915) was in Hawaii with duty at Fort Ruger. During this assignment, Knerr was promoted to first lieutenant, 1 July 1916, and to captain in May 1917. In September 1917, he returned to the United States and took his pilot training at the aviation school of the Signal Corps at Rockwell Field, San Diego, California. On 15 December 1917, he obtained his military pilot's rating. Knerr served as flight instructor and engineering officer at Park Field, Millington, Tennessee, and Gerstner Field, Lake Charles, Louisiana, until June 1918. He then returned to Hawaii July 1918 as commanding officer, 6th Aero Squadron, and then given the assignment as commanding officer at Luke Field, Pearl Harbor, Territory of Hawaii. In May 1919, he was transferred to McCook Field, Dayton, Ohio, and served as assistant engineering officer until August 1919 before moving to Fort Barrancas, Florida, for duty with the Coast Defenses of Pensacola. Knerr was promoted to the rank of major, 1 July 1920. From February 1922 to January 1923, he took advanced training at Carlstrom, Arcadia, Florida, and Kelly Field, San Antonio, Texas. Knerr transferred permanently to the Air Service, US Army, 8 February 1924. From February 1923 to August 1925, he was commanding officer of the 88th Observation Squadron and later the 5th Division of Air Service at Wilbur Wright Field, Fairfield, Ohio; until September 1930, he commanded the 2nd Bombardment Group, Langley Field, Virginia. In June 1926, he graduated from the Air Service Tactical School at Langley Field. In June 1927, Knerr completed Command and General Staff School at Fort Leavenworth, Kansas; later, in June 1931, graduated from the Army War College, Washington, DC, at which time he was assigned to Wright Field, Chief of Engineering Division, Air Corps, for the US Army. Between March 1935 to February 1938, with the rank of lieutenant colonel, he became chief of staff at Langley Field. On 26 August 1936, Knerr was promoted to colonel. In February 1938, he was assigned as corps area officer at Headquarters Eighth Corps Area, Fort Sam Houston, Texas, wherein he served until his departure from service on 31 March 1939 for a disability retirement. Knerr, now a civilian, joined the Sperry Gryoscope Company with a position in the research laboratory (July 1940) and served as a military consultant.

In October 1942, Knerr was recalled to active duty as deputy commander of the Air Service Command, Army Air Corps. In July 1943, with a promotion to brigadier general, he became deputy commander of the Eighth Air Force Service Command as well as commanding officer of Air Service Command, US Strategic Air Forces in Europe. In March 1944, Knerr was promoted to major general. Following the end of World War II, Knerr was the commanding general at Air Technical Service Command, Wright Field, from June 1945 to February 1946; then he became the special assistant to the Chief of Staff, Headquarters, USAF. In January 1948, he was assigned the duty of creating the Office of Inspector General for the newly formed independent Air Force. He became the first inspector general of the United States Air Force. General Knerr retired 30 October 1949 with the temporary rank of major general.

General Knerr was married to Hazel Dow (2 September 1910) and had two sons, Hugh Salisbury Knerr and Barclay Dow Knerr.

His awards and decorations include the Distinguished Service Medal with Oak Leaf Cluster, the Legion of Merit with Oak Leaf Cluster, the Bronze Star Medal, the French Croix De Guerre with Palms Degree of Officer, and the British Order of the Bath.

Gen Hugh J. Knerr died of cancer on 26 October 1971 at Bethesda Naval Hospital and is buried in Arlington National Cemetery.

Original Foreword

This autobiography reflects a true image of the American way of life from the time "Buffalo Bill" Cody was still on the scene until the Captains and Kings of two World Wars had departed.

The future leaders of our country lived in an environment during a period that developed the qualities of leadership in political and military affairs, destined to elevate the United States to a position of preeminence among the nations of the world: in its own way the life herein portrayed was one of such,

In this book threads of adventure, conflict, tragedy, and a happy ending, are woven into a colorful pattern of America in the era, 1887-1950, which will appeal to the adventurous generations, and provoke among others, thoughtful appraisal of our currently dangerous circumstances.

Maj Gen (Ret) Hugh J. Knerr, 1971

Introduction

By Captain David A. Loska

> *Modern war is rapidly developing into a logistics struggle. The importance of the tactical weapon is therefore overshadowed by the supply organization which supports it. This is a consequence of the mechanization of war. This exchange of relative importance has not been duly recognized, and as a consequence, the means for meeting the changed situation have been neglected.*
>
> —Maj Gen Hugh J. Knerr

The reader may find meaning in the story of Maj Gen Hugh J. Knerr. For Airmen in an Air Force with a profound culture, but also one enveloped in busyness, overspread, and sometimes difficult to sense, this sweeping airpower narrative offers direction and the history of an epic life.

When I first came across Knerr's story, I was stationed in England. Our United States Air Forces in Europe A4 had come to speak with us. We were in a conference room filled with maintenance and logistics readiness officers from the neighboring bases of Royal Air Force (RAF) Mildenhall and Lakenheath, known by the local population as, *Little America.* After being asked a question about the resourcing for repair and supply capabilities, our one-star answered by drawing from the history of the region, where large Army Air Force (AAF)–run depots in the United Kingdom had supplied the many operational bases during the second world war.

Later that day, I went back to my house (on base housing, ironically on a street called Burtonwood, named after the largest of the World War II depots) and started my search to learn more. It was not long after an initial look into this important epoch in air force history that I came across its most dynamic leader.

Current and future US Air Force leaders can find a hero in Knerr, especially for those frustrated with the status quo; for them, Knerr offers an example of the penultimate disruptor.

To leaders frustrated with the state of innovation in the USAF, revolutionizing its way out from under its own burdensome bureaucracy—leaning out capacity with waste and carving out the sinews with the fat—Knerr offers the perspective of the pathfinder. Who saw the B-17 before it existed in the minds of the world, and broke the political blockade of a nation that did not yet envision the need . . . before it was too late.

When superfluous staff work leaves some feeling traffic jammed in the carpal tunnel of version control; Knerr's story gives liberation, as the Air Force architect who tore down the archaic general staff system of the Eighth Air Force in World War II to build a new, decentralized, mission-focused organization, leading to what one officer at the time dubbed, "the war of the staff organizations." A war within a war, giving the maintenance and supply logistics of the "Mighty Eighth" Air Force teeth to defeat their foe.

And for those discontented with the box-ticking gamesmanship of military careerism—forebodingly navigating the fear and biases of the dark web of the promotion system, looking for solace in the mission and contentment in the internet-for-the-rest-of-us, and questioning whether to *be* or to *do*—they can look to the underdog who was seldom outdone but often surpassed. An unlikely hero, the maverick, who even while well-known Air Force leaders stole the credit, would continue to clean up the mess behind the camera, whose internal fire and discontent drove him out of the service twice, while a campaign for an autonomous air force left him at odds with the most powerful names in the War Department and the White House. Yet somehow, through moxie, ingenuity, and a world war, he continued to ascend on the most unorthodox of paths.

Knerr's story is one of longsuffering, devotion, shipwreck, and romance, the pursuit of intellectual freedom, and at times rebellion and dissent. He shares accounts of intimate friendship, betrayal, countless achievements, and permanent legacy.

July 2021 marks a century since the establishment of the official logistics mission of the Air Force. A hundred years before, the Air Service established the office, bulkily titled the "Office of Property, Maintenance and Cost Compilation," at Wilbur Wright Field, Ohio. Control was administered over the maintenance and supply depots, built for the Air Service during World War I, that span the United States in towns and cities such as Americus, Georgia; Little Rock, Arkansas; Sacramento and San Francisco, California; Long Island, New York. Each had a complement of a dozen officers and a few hundred enlisted men, storing, receiving, and and issuing parts and supplies to the airfields of newfound importance.

It was just three years after the armistice which ended the war that heard for the first time the reverberant hum of aircraft such as the JN-4D Jenny, powered by the 90-horsepower OX-5 engine, harrowing the heavens above the trenches. A war that displayed elaborate dancing trails of air battles and saw aviators crash despairingly into no-man's land that would send confused soldiers in to brave gunfire to salvage scant and prized OX-5 parts. Their critical need brought on through scarcity of low procurement of this multifarious emergent warfare technology.

Since those embryonic days of air warfare logistics, many leaders have earned credit for establishing the logistics enterprise we now know a century later. Though the careers of some would pass momentarily through *supply*, *materiel*, and *maintenance* assignments, others mastered the craft, dedicated their lives to it, defined it, and created it. It was during those early days of the Air Force mission that the framers of doctrine and tactics established the business of airpower. Names such as Foulois, Brett, Arnold, Spaatz, and Andrews endured. They became deeply rooted in chapters of the histories offered through professional military education or perpetuated through base and street names in on-base housing developments, intersecting earth-toned, "Creech-brown," muted, sprawling landscapes of hangars, office buildings, and golf courses. And yet, there are other names whose contributions seem to warrant more than the obscurity that the passing of time and memory has afforded them, names such as that of Maj Gen Hugh J. Knerr.

Consistent amongst the few, infrequent mentions of Knerr in articles or studies, historians expound upon themes of foresight, vision, the intensity of purpose and innovation. Accrediting praise for virtuous achievements such as his unrestrained campaign for an autonomous Air Force, one author stated in 1942 that "no officer, not even Billy Mitchell himself, deserves a higher place on the role of the men who have fought for Air Power than Colonel Knerr."[1] His determination with Gen Frank Andrews resulting in the development and procurement of the B-17 long-range strike capability. His establishment of the First Transport Group and air cargo capability, laying the pre-war foundation for the USAF air mobility and global reach mission.[2] His *"organizational genius"* in restructuring the maintenance and logistics enterprise of the European Theater of Operations (ETO) in World War II that he subsequently led to victory.[3] Even apocryphal stories of his contributions to designing and promoting the first USAF uniform, its contemporary shape, deep blue tone, and silver buttons representing a symbolic *terminus a quo* to a skyward military future bereft of its high-starched, impractical past. Of each of these successes, he offers his perspectives in this memoir.

Also captured is a keen awareness of obscurity and standing as a historical underdog, as if surprised that, by the merit of his achievements, his name is not more commonplace. Phrases such as "relative *unknown,*" "improbable hero" are historically appropriate.[4] Knerr himself, even during his prime, seemed keenly aware of his underdog-like status. In one comical anecdote, during what was possibly the apex of his long and distinguished military career, Knerr was booted from his deployed residence. As deputy commanding general of US Air Forces Europe, while the Headquarters United States Strategic Air Forces (USSTAF) was mobilizing to northern France, he proactively selected housing and nearby office spaces for his air staff to maintain the team integrity previously not afforded to them. Knerr would proudly write to his wife Hazel, "our own masters for once." In early September 1944, however, he was summarily removed from his living quarters and replaced by General Eisenhower. In a moment of frustration, Knerr wrote home to Hazel, "Dog gone it! Why is it I'm always the underdog!"[5]

Why is it that the names and contributions of some military leaders are maintained in our cultural memory while others such as Knerr's are forgotten or *unsung*? Some conclude that as the *new* begins to push out the *old*, societies and cultures often forget. Alternatively, when people of a generation begin to die, many cultural touchstones also begin to diminish in importance.[6] It could also be that champions of abstract and detail-oriented concepts such as logistics warfare or organizational theory, in comparison with the grand hand-waving military strategies of operational leaders, are difficult for the layman to understand and therefore difficult to ascribe credit to. The muffled praise of these heroes falling into the ravine of abstract conceptualizers with the Steve Wozniak's or the Heinrich Hertz's of their age. Martin van Creveld, author of *Supplying War: Logistics from Wallenstein to Patton,* describes this sentiment:

> Strategy, like politics, is said to be the art of the possible, but surely what is possible is determined not merely by numerical strengths, doctrine, intelligence, arms, and tactics, but in the first place, by the hardest facts of all: those concerning requirements, supplies available and expected, organization and administration, transportation and arteries of communication. . . . It may be

> that this requires, not any great strategic genius, but only plain hard work and cold calculation. While absolutely basic, this kind of calculation does not appeal to the imagination, which may be one reason why it is so often ignored by military historians. The result is that, on the pages of military history books, Armies frequently seem capable of moving in any direction at almost any speed and to almost any distance once their commanders have made up their minds to do so. In reality, they cannot, and failure to take cognizance of the fact has probably led to many more campaigns being ruined than ever were by enemy action.[7]

Whatever the reason, since Knerr's death, his memoirs have only existed in a stack of papers entrusted to the US Air Force Academy Library's Special Collections, endowed by his wife, Hazel. This stack of papers offers a glimpse into the memories and psyche of this early architect of airpower.

Knerr penned his manuscript in 1971 and finished this draft shortly before succumbing to cancer in the fall of that year. He offered much in the way of perspectives of the early days of airpower, the Second World War, and the founding of the US Air Force. In addition, Knerr portrays vignettes of the late 19th century Great Plains of America, rich and untrodden, a way of life that raised many key military leaders, such as Eaker, Nimitz, and Eisenhower. Furthermore, because Knerr began his military career in the US Navy, his memoirs cover his midshipmancy and maritime voyages, including a capsize, and survival at sea. A romantic turning point led to his expedient proposal to his wife, Hazel, to whom he remained faithful until his death. These memoirs are equal parts historical, wizened musings, and wise cracks of an Air Force grandfather figure, spinning yarns of tales from days gone by that will serve as a primary account for military historians. However subtly, they reveal the origin of air warfare thought and doctrine.

The reader should consider this manuscript, for all intent, a first draft. It was completed and sent to close friends and publishers for review and consideration a month before Knerr succumbed to cancer. Therefore, this extant version has sometimes frustrated historians who are searching for keys to unlock some of the historical underpinnings of American airpower. Authors have called the work "not overly useful, conveying no hint of the fire that drove Knerr out of the service on two occasions," and complain that it "scarcely discusses how he achieved such successes. Instead, we have a barely interesting memoir of anecdotes, stories, and opinions that provide little insight or analysis."[8] One letter of advice written to Knerr on the manuscript suggests, "there was a time, perhaps up to 1950, when the gentle reminiscences of an important military figure like yourself would be picked up, given publication opportunity, and achieve respectable sales. That day is gone, if not forever, at least for the near future." Knerr was advised to "draw a little blood, and at the same time a crowd of publishers." Further, advising him to expound on many of the infamous conflicts and controversies of his career.[9]

In these memoirs, Knerr backed away from the blood-letting that is evident in much of his earlier writings that could have revealed the ire that was the propellant of much of his career. Somewhat fondly, Knerr is reminiscent of his relationship with "Hap" Arnold which began with their round-trip test flight of Martin B-10s from Washington, DC, to Alaska in 1934; a mission, according to Knerr, where he primarily led the planning and logistics coordination, but Arnold, a Johnny-come-lately to the mission, received a Distinguished Flying Cross and his second Mackay Trophy. Knerr, second-in-command, received nothing. Later interviews with Knerr and other histories reveal that this began an animosity toward Arnold that would extend through much of their careers.[10] The two both often relied on each other and contended against one another, a type of "frenemies," in a saga of early aviation and a world at war.

Though the analysis of Knerr's achievements receives but subtle mention in his memoirs, his early life and career can give insight that can be expounded upon for greater comprehension.

Who was Hugh J. Knerr, and what was he like? He was known by many to be a reserved and quiet man, more comfortable working in the privacy of a conversation than in front of a large crowd. He had deeply set blue eyes, with eyebrows that slightly twitched when he spoke with feeling. He was described once as a "military Carl Sandburg," with the seriousness of the poet, but with a personality that was void of gradualism and at times surprised others with its outspokenness and intensity.

Knerr was born in 1887 in Fairfield, Iowa, while his earliest years were spent in the plains near Atchison, Kansas, to which his family moved following his father's employment as a university science professor. His mother, the daughter of the reverend of a Lutheran church in Dayton, Ohio, had studied at Wittenburg College, where she and Knerr's father met, were later married, and welcomed Hugh a year later.

Fascinatingly, Knerr was first exposed to aviation right at the mouth of the wellspring in the bicycle shop of the Wright brothers.

His childhood summers were spent in Dayton with his aunt and uncle who were friends of the Wrights. They would send Hugh to have their bicycles repaired at the Wright Cycle Company. Later, he recalled, "I remember not being very happy about it because it was a girl's bike."[11] "The youngsters loved Orville, but Wilbur had a different personality, possibly because he had his teeth knocked out in a hockey game."[12] In an irony that only a logistician can fully appreciate, the air force architect of logistics warfare began his contributions to aviation "services" by building kites and scrubbing toilets, for the Wright brothers.

Knerr earned his commission at the US Naval Academy. After three and a half years in the Navy, he transferred to the US Army because of his interests in aviation and due to some accidental trouble, he got into with his commanding officer (which he discusses in this memoir).

After the end of World War I, and after tours in Hawaii, Washington, California, and then back to Hawaii, which also saw Knerr transferred from the coast artillery to the Signal Corps as a pilot, Captain Knerr was sent to McCook Field in Dayton but again ran into trouble after challenging authority. Soon after arriving in Dayton, Knerr received a letter ordering him to Washington, DC, to report to a penny-pinching War Department his unauthorized use of aviation gasoline in private vehicles. The hearing was conducted by the non-flying chief of the Army Air Service, Maj Gen Charles T. Menoher, who kept a watchful eye on the shenanigans of his assistant chief, Brig Gen Billy Mitchell, and his followers. Knerr explained that he had authorized a small amount of gasoline to the base medical officer to make calls on patients after his request for an ambulance had been denied. When General Menoher expressed disbelief, a defiant Capt Knerr exclaimed he would do the same thing again in like circumstances! All the while, General Billy Mitchell shook his head in the back of the room, as if to warn Knerr away from his damning sentence. Knerr was removed from the Air Service and sent back to the coastal artillery in Florida.

In August 1925, after his return to the Air Service from the "doghouse," Knerr was sent to Air Service school at Langley Field, Virginia, where Air Force's early doctrine of bombardment aviation took shape. He approached the course of instruction with high hopes for the vision of airpower set forth by General Mitchell but was later disappointed as he found himself at odds with the curriculum. During his course of instruction, Knerr insisted to the cadre that the supply and maintenance function was far more effective in deciding the issues of the conflict than glamorous air battles. As he stated, this was for the simple reason that "when you take an enemy's bullets and beans away from him, his airplanes become impotent." Before long, his disagreements with the staff became uncompromising. He also found the maintenance of the school aircraft dangerously inadequate. An incident resulting in a fuel tank line pulling apart at the hose joint directly in front of his face during flight led Knerr to submit an official report after informal complaints were unsuccessful. The schoolhouse led the investigation, placing Knerr under arrest pending its outcome, after which his claims were validated, and he was vindicated.

Considering his persistent complaining during his command of the 2nd Bombardment Group at Langley Field, and his passion for supply and maintenance improvements, or what General Foulois referred to as "tantrums," Foulois sent Knerr back to Dayton in 1931, appointing him chief of field service, to "do something about it."[13] Major Knerr's priority was to establish more effective contact with the operating bases through improved logistic procedures. Shipping costs and slow rail delivery canceled out much of his unit's capacity for speed and mobility. His experience with aerial transport in the 2nd Bombardment Group had convinced him of the need for specialized aircraft for that purpose. At the time, with headquarters established at his office, there were not specialized airlift aircraft; therefore, Knerr organized the First Transport Group of four squadrons by retrofitting old worn-out bombers, Ford Tri-Motors, and Ballancas. The group's four transport squadrons were located at the Sacramento Air Depot, California; the San Antonio Air Depot, Texas; the Fairfield Air Depot, Ohio; and the Middletown Air Depot, Pennsylvania. Squadrons delivered communications; moved engines, parts, and equipment between the depot sites; and provided air transport support for exercises and maneuvers "using enlisted men as pilots and whatever planes were available."[14]

One historian would later write, "In retrospect, while these moves were small steps in the right direction, the focus still remained squarely on supporting only Air Force elements and operations. The synergy of true joint operations had yet to be realized."[15] Knerr campaigned for and effected this pressing strategic need for specialized airlift capabilities throughout his career and even into retirement, advocating before the US Senate the need for increased manufacturing of specialized airlift aircraft.[16] And, when the opportunity presented itself, as the Allied forces began to occupy the European continent toward the final years of World War II, Knerr unified the air transport service elements into the 302nd Air Transport Wing.[17]

Maj Hugh J. Knerr, 88th Squadron, Wilbur Wright Field, 1924. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

During this period, as chief of field service in Dayton, Knerr attempted to address the stagnant professional development of supply and maintenance officers, and the precipitating bad morale within that corps, by creating the first supply and maintenance schoolhouse at Chanute Field. However, his plans were unsuccessful. In 1933, during the Supply and Engineering Conference at Wright Field, Knerr reported that the section's plans for establishing such a course had failed because the school had burned down.[18] The Materiel Division Supply School eventually opened at Fairfield Air Depot. The first class of 35 officers completed the eight-week course in November 1940, and the second class began in April 1941. However, this early failure continued to plague Knerr ten years later, as commander of VIII Air Force Services Command (AFSC), with the inadequate experience of his senior officer cadre. He lamented to General Eaker, Eighth Air Force commander, in a November 1943 memo that "the above positions are at present filled with senior officers with little supply and maintenance experience, former enlisted men of little executive ability, or by experienced officers attempting to do several jobs at once. . . . It is small consolation to recall the determined efforts I made as chief of field service in 1933 to get a supply and maintenance school established on par with the Engineering school. I failed and now am suffering the consequences."[19]

Later assigned back at Langley, as chief of staff to Gen Frank Andrews of the newly created General Headquarters (GHQ) AF, Knerr's team held maneuvers in all parts of the country and in all types of weather, revealing logistics constraints. The Army retained control of logistics at Headquarters Army Air Corps. At this time, he developed a deep admiration and a kindred friendship with Andrews. Knerr and Andrews brought the B-17 bomber into focus as the primary weapon for airpower, together with a logistics establishment to give it worldwide capability. However, disagreements and controversies such as the one after a training exercise involving the tracking and location of an ocean-going vessel, later known as the "The Interception of the Rex" incident, caused the War Department to disband the GHQ Air Force rabble-rousers. Col Follett Bradley went to Puerto Rico, Lt Col Joe McNarney was assigned to Washington, and Knerr was reduced to his permanent rank of lieutenant colonel and sent to San Antonio.

Knerr was sent to occupy the same "doghouse" seat previously occupied by Billy Mitchell at Fort Sam Houston, after Mitchell's demotion, and prior to his famed court martial. Mitchell's picture still hung behind the desk. Frank Andrews, Knerr's mentor and friend, occupied this same seat later upon his demotion to colonel. Knerr felt highly honored by this, and although he enjoyed the freedom to survey the airfields along the southern border of the United States, he became frustrated by the tedium of the assignment itself. To relieve the boredom of his posting, Knerr wrote a book titled *The Student Pilot's Primer* that became widely used as a text in flight schools and colleges. Because of his frustration with his situation and the disappointment following the GHQ Air Force disbandment, Knerr retired from 30 years of active service after succumbing to what physicians described as stress-induced sciatica of psychosomatic indications that he attributed to an injury sustained during an earlier aircraft crash in the mountains of West Virginia.

Indeed Knerr, facing the ever-prevalent stigma of mental illness of his day was keenly aware of what others might think of any so-called psychosomatic indications. A mention in his memoir that is at first, and on the face of it, contextually out of place, states: "I deeply resented the inference that I was some sort of a nut because of my persistent advocacy of airpower, and an autonomous Air Force." In a pen and ink note written in the margins of an earlier draft of his memoirs, as if to add context for the future observer, Knerr wrote, "This is standard procedure by the War Department to discredit and get rid of their critics. A subsequent examination at Walter Reed cleared me."[20] As he states, subsequent examination was one barrier for his reentry onto active duty, which he eventually overcame. The primary barrier was political, which he overcame with a little help from his friends.

And though unsurprisingly, his papers give no further insight, it gives pause to such things as the immediate mention of his admiration for Abraham Lincoln overcoming a "nervous breakdown," or implied criticisms of "cracking up" following the November 1944 Conference of Commanders in Cannes, Frances. During this conference, against Knerr's advice, the AAF disbanded the two-deputy system despite its proven value in many major operations. Further, in 1958, Knerr's son, Hugh S. Knerr, while a captain in the Navy and comptroller of the New York Naval Shipyard, suffered a major stress-related fever and depression which resulted in a four-month hospitalization and a change of assignment to commanding officer for the Office of Naval Research in New York.[21]

The stigma of mental health in the military is well documented. One of the lesser-known outcomes of the AAF's experiences in World War II were some of the earliest contributions to a developing field of military psychology, studying "combat fatigue" and contributing knowledge that would begin to overcome this stigma. Historian Donald L. Miller shines light on the complex dichotomy of the mental health of Airmen by describing the role of flight surgeons of the Eighth Air Force in World War II: "On the one hand, they were trained healers who tried to get as close to the men as a chaplain would to his flock, making themselves available for counseling and medical treatment at all hours of the day and night. On the other hand, they were military officers whose principal duty was to keep men healthy and sane enough to kill for their country."[22]

Whether real, perceived, weaponized by the War Department, or a combination somewhere between, Knerr found himself up against that stigma. If, as his notation suggests, he was concerned with what future generations might think, struggling to get the words right, he would find that his experience was vindicated and serves as an important and relatable touchstone to future generations. Although some recognize this is an area where there is still much need for improvement, partly accredited to the knowledge that was gained by his generation, there is now far less prejudice. It is easy to overlook all of this, but as American sportswriter and historian Sam Anderson writes, "Humans are complex, and we do them no favors by trying to simplify them."[23]

After his retirement from active duty, Knerr gained employment as a defense consultant at Sperry Gyroscope Company, helping to develop bombsights for AAF aircraft and army artillery guidance system, and aiding the British application of the klystron device to their anti-aircraft defenses.

It was during these years, 1940–1942, that Knerr wrote many articles for leading magazines such as *American Mercury, Life, Fortune,* and contributed statements to newspapers on the subject of airpower and the need for a separate air arm co-equal with the Army and Navy in a Department of National Defense. He used provocative titles such as, "The Navy Command Fights for Headlines," "The Admirals of Airpower," and "Dangerous Struggle in our War Command." Editorial comments throughout the US gave him and the effort full support. The articles were well received in the UK, but he received bitter denouncement by the higher echelons of the Navy and War Department.

Knerr collaborated and co-authored a book titled *The Fight for Air Power* with William Bradford Huie, an editor for *American Mercury*, which controversially blamed President Roosevelt and Adm Ernest King for the weaknesses in US airpower prior to the attacks on Pearl Harbor. Knerr was later directed by the War Department that any credit due to him for authorship should be removed, and so it was published with Huie as sole author. After Pearl Harbor, Andrews advocated for his return to active duty, although by this time, the War Department showed resistance and the Navy fought it at every turn. After much pressure from the Navy, Sperry let Knerr go and he was prohibited from any further speaking engagements by the War Department. After a strenuous battle with many political hang-ups, Knerr was recalled to active duty. He feared he was only being recalled to be court-martialed.

The significance of his break in service on the development and progression of his ideas may have been lost on some—many of his contemporaries had far advanced from their previous rank and stature in the short period of time following the breakout of the war—

however, while writing, speaking, understanding, and benchmarking commercial practices in the military industrial base, it was not lost on Knerr or those nearest to him and would certainly fuel the fire and influence future reforms and functional alignment of logistics in the ETO. Upon his generalship, his son Hugh, then a lieutenant in the Navy, wrote to his father to congratulate him:

> Dear Dad, according to *Time Magazine* they have, quotes "pinned another star to your doghouse"—also quotes "Annapolis should be proud." Something tells me the work you did during the three years of retirement will eventually add up to equal the other thirty years in harness. Even though the Navy might be willing to "forget the whole thing" apparently the press won't let 'em up! Congratulations and many happy returns on the star![24]

If Knerr had remained on the speaking circuit, playing the role of the martyr (for which he felt much less suited than Mitchell), his largest contributions to air logistics warfare might never have occurred. In fact, they only did so after a confluence of unfortunate events that thrust him into a historic role pioneering deployed logistics for the Air Force.

Like the Pauline return from Arabia to evangelize a saving vision—or perhaps akin to Bruce Wayne's disillusioned return from the mountain-top dojo of Ra's al Ghul to save Gotham from self-destruction in the film *Batman Begins*—Knerr's civilian sabbatical would provoke new vitality, ire, and enterprise.

Logistics Analysis

Contemporary Application

Though the analysis of his accomplishments within this manuscript is limited at best, Knerr's personal account, accompanied by his historical narrative and other primary sources, reveals insights from which we can make supported conclusions about the makings of his military successes and failures. Preeminent were his contributions to the employment of aviation logistics and organization of administration and operations under the "deputy system" of the Eighth Air Force during World War II. This system was brought about in part through the Air Force Build-up Plan or "Bradley-Knerr Plan" assembled by the Bradley-Knerr Committee. The planning began in October, was published in May 1943, and by July 1944 USSTAF reached its maximum end strength.

The doctrinal underpinning that Knerr most famously held, and to which all others seemed subordinate, was a definition of logistics that included "everything but operations."[25] Supporting the organizational concept of "centralized control and decentralized operation," this was the creed that fueled the organizational alignment of the Eighth Air Force during its build-up under the implementation of the Bradley-Knerr Plan. He maintained this definition leading up to and during World War II. It most certainly influenced his recommendations in the Bradley-Knerr Plan, which defined the organization and administration of the entire air campaign in the ETO. Knerr later amassed theatre-wide authority of logistics by assuming the "dual-hatted" position of both deputy commanding general for administration as well as commander of the VIII AFSC, vertically aligning the entire logistics effort of the AAF in the ETO.

Precipitating need for the Bradley Commission was a confluence of (1) a tremendous expansion program that was conceived in 1941, and increased mission requirements influenced by the strategic bombing focused decision resulting from the Casablanca Conference at the beginning of 1943, (2) acceleration of both American production and the AAF training pipeline, and (3) the centralized organization of the Eighth Air Force.

It is important to understand that the role of logistics at this time was not clearly defined. Because airpower had never been employed to this extent, the AAF was in a period of trial and error and in many ways the most compelling theoretical view would win out. The employment of aviation "services," a generalized term referencing things outside the scope of operational (i.e., procurement, storage, distribution, repair, personnel, finance, etc.) to a large degree was subordinate in planning and consideration to operations. It is important also to note that in the earliest periods of the twentieth century, military aviation was primarily considered a *service* to the ground forces.

Further, the trend toward an independent Air Force followed this progression:

1907, Aviation Section of the Signal Corps
1918, US Air Service
1921, US Air Corps
1935, GHQ Air Force
1942, Army Air Forces

However, the establishment of independent aviation *services* followed a much slower progression:

1923, Field Service Section
1941, April, Maintenance Command
1941, October, Air Service Command

In a later memo forwarded to the Eighth Air Force commander, Gen Ira Eaker, Knerr challenges the use and definition of the term "services." He recommended the name of the service command be changed to *maintenance* command. Arguing:

> Much of the lack of understanding frequently arising between operational and maintenance echelons of the Air Force is due to unrecognized prejudices based upon past unfortunate experiences and convictions and based upon lack of experience in both capacities. The word "Service" carries a connotation of servility that has no place in a modern Air Force. The word "Maintenance" is far more descriptive of the effort required to keep men, materials, and machines in operation as the indivisible team, which is an Air Force.[26]

It was in such an environment that the early understanding and employment of aviation warfare logistics took hold. Eaker's centralized management of maintenance and supply of the Eighth Air Force was likely born out of his "Compromise Plan," which temporarily indentured the US to borrow from their hosts on UK aerodromes to employ bombing campaigns soonest while the build-up of future basing could take place in parallel. General Eaker's assessment in March of 1942 of the situation in the UK was one "in which strategic had outrun the logistical factors."[27] And one where the combat commander was in full charge of maintenance and supply functions at his station.

This centralization of maintenance and supply under the combat commander was indeed a controversy of its time since it was borne out of a popularized theory with strong psychological reasoning. It was supported by American military doctrine of *Unity of Command* with a possessive attachment to the aircraft which aircrew had personalized, painted, and were ultimately reliant upon for their own survival in combat. This stemmed from the same instinctive sentiment that had gunners "pull out their guns" and aircrew hang on to their equipment, and the perception and reality that familiarity with their own equipment would lead to a further advantage in the air. It also led to a situation where bases that were responsible for 1st and 2nd levels or "echelons" of minor repair and maintenance, would stretch into the 3rd echelon and major overhaul for which they found themselves inadequately skilled and resourced to undertake.

In July 1942, the Eighth Air Force defined the mission of the service command by assigning it chiefly those functions "not specifically assigned or attached to other commands," publishing a subsequent Eighth Air Force policy on supply and maintenance as beyond the means and capacity of the tactical elements and their attached service units. These nuanced mission descriptions drove what was understood at the time to be a "negative type" mission—leaving the service command responsible for only that which was not attached to others. This was at a time when the maintenance of aircraft and supply of skilled maintainers was among the most significant challenges faced by the Eighth Air Force and the AAF as a whole. This too was a departure from the greater Air Force directive, AAF Regulation 65-1, *Supply and Maintenance Program*, which directed that only first and second echelons of maintenance should be performed by combat units and that third and fourth echelon should be performed by service centers, subdepots and depot groups, and air depot groups, respectively.

A more decentralized view of maintenance and supply was driven by another contrasting theory of the "hotel-system." In this system continental US bases were organized and operated as permanent installations through which tactical units moved and were defined by GHQ Air Force as "hotels for tactical units." Contention to the adaptation of this concept in the Eighth AF stationed in the UK was due to the "static nature" of bomber warfare. Eaker and others at that time expected bomber units to remain at the same station for the duration of the war.

General Arnold visited the UK in August and September of 1943 and involved himself in the details of the maintenance problems in England.[28] He subsequently ordered all third echelon maintenance to be the responsibility of the service command for all units of the Air Force including the bomber or strategic as well as the tactical units.[29]

In the spring of 1943, Generals Arnold and Eaker were ordered to study the logistics situation in the UK and North Africa. Maj Gen Follett Bradley was selected to organize and formulate the report. Bradley selected Colonel Knerr, who was recently installed back on active duty. Knerr anticipated working at least indirectly for his dear friend, Gen Frank Andrews, who had helped campaign for Knerr's return to active duty. He discussed their relationship at length in these memoirs. However, upon arrival at Prestwick, Scotland, Knerr learned of Andrews' death in an aircraft accident. This was not the only tragedy Knerr faced on this trip. General Bradley suffered a severe heart attack during the North African leg of the trip, leaving the commission and its objective in limbo.

Bradley, in a letter to Arnold, recommended he choose either Gen Henry Miller or Knerr to complete the study. However, he indicated that Miller was "too kindhearted" and ultimately recommended Knerr:

> Of course, the best man for the job is Hugh Knerr, but I am afraid the powers that be would pass out at the mere suggestion of giving him the necessary rank and authority to swing the job. . . I do hope, though, that whatever influences are still potent enough to keep Knerr's promotion from him have died out. He really doesn't give a damn whether or not he is made a Brig General, there is no question but that his work and usefulness would be facilitated if he were promoted.[30]

Although Arnold would likely have chosen Maj Gen Henry Miller to step in (the same Miller who was notoriously sent home by General Eisenhower for presumably leaking the date of D-day during a dinner party), because he was the sitting Eighth Air Service Command (ASC) commander, Bradley recommended that Knerr was up to the task. Arnold pushed the stalled promotion paperwork for Knerr's generalship through the thick animosity of the War Department. Knerr would have to go it alone for the rest of the survey.

Knerr subsequently authored the North African portion of the study, publishing the final version of the report, writing:

> The Air Service Command of the North African Air Force has done a remarkable job of maintenance of men, materials, and machines under the most trying conditions. This was accomplished by close adherence to the provisions of AAF 65–1. . . A consequence of this performance has been that tactical commanders not only do not insist upon the command of their bases as is the case in England, but frequently refuse to accept it as being the function of the Air Service Command to provide total service and maintenance. The result is that tactical commanders can devote their entire time and energy to fighting. This cordial relationship has resulted in some over-confidence on the part of units that they can depend upon the Air Service Command for service at any time or place. Such units pick up and move to a new spot and merely notify the Air Service Command they are there and "When do we eat?" This puts a heavy burden on the Air Service Command, but no instance of failure was discovered. This performance has been an excellent confirmation of the wisdom of the effort made by the original GHQ Air Force to establish bases as "hotels for Tactical Units." It is unfortunate that it has required eight years and a war to prove the soundness of that concept.[31]

Knerr observed the North African logistics problems such as great distances, lack of transportation, poor communications, and an enemy on the ground as well as in the air. He recommended that:

> The Air Forces in each theatre should have their own services of supply (SOS) extending from the port of entry to the consuming units. Such as is being done in North Africa through necessity. If the Air Service Command had been content to depend upon the ground SOS for expected performance, the situation in Africa would be quite different from the present one.[32]

Designing the repair network of the ETO and establishing subdepots to extend repair capabilities closer to the operational bases set the tables of organization and end strength for logistics services.

Surely much credit to the design and subsequent successes of the logistics organization of the Eighth Air Force should be ascribed to the build-up plans outlined by the Bradley-Knerr Commission. However, it is important to acknowledge the rapidity of the study, and that many of its recommendations were presuppositional to the challenges presented. For example, the itinerary of the survey of each of the major operational sites in the UK began on May 5th and ended on May 29th. This left less than one full day to assess the two largest depot industrial sites, Burtonwood and Warton, between the 13th and 14th.[33]

The apparent subordination of logistics factors in aviation warfare must have seemed paradoxical to aviation supply and maintenance officers such as Knerr, because the Eighth Air Force embraced theories of strategic bombing to disable and destroy the production and logistics systems of the enemy but left their own exposed and weakened.

Knerr's investigatory report on logistics in Africa proposed the two-deputy system, *operations* and *maintenance,* which was later adopted as deputy for administration—a comparatively similar alignment to what existed in the RAF between Ops and Admin systems.[34] Knerr claimed ignorance to the similarity and that he was not aware of the implications until later in the war.[35] Eaker partially accepted Knerr's proposal but limited it to combining the commanding general VIII AFSC and Eighth Air Force A-4 to a dual-hatted role. It was not until Gen Carl Spaatz became commander that the organization adopted the full two-deputy system. Knerr later stated, "In the report I was quite insistent in the deputy system, General Eaker never liked the system. He had the regular A staff. I did manage at that time to get a compromise, although it meant that I had to wear two hats."[36] It was clear that Spaatz intended for Maj Gen Fred L. Anderson to serve as deputy for operations, but unclear on who he would have serve as deputy of administration. However, in his General Order no. 1, USSTAF, Spaatz designated Knerr his deputy for administration. "One of the first things he did was put in that system. As far as Eaker was concerned, it was never popular."[37]

Knerr consistently maintained that the concept for a two-deputy system was born out of the weaknesses of an alternative three-deputy system, where two deputies were apt to gang-up on a third, and that he could not find in history a successful "triumvirate." He maintains the claim in this memoir, which is a likely reference to the unsuccessful alliances of ancient Rome.[38] However, interviews following the conclusion of the war with officers close to Knerr reveal a variation of this claim. Though General Anderson, the deputy for operations, would fully accept the two-deputy arrangement, the largest conflict was in the responsibility for personnel. Knerr, to this point, was quoted to have said that "he who controls personnel, controls the purse-strings."[39] Therefore, to build the logistics officer to parity with operations—to give logistics the prestige and position to be allowed to participate in mission planning during its critical stages, and essentially to go toe-to-toe with ops—it was necessary, in Knerr's mind, to be responsible for personnel. This vertically aligned logistics organization stood during many of the major European operations of the air campaigns such as the D-Day landings, Big Week, and Market Garden.

After the Conference of Commanders, which included the leading Air Force commanders of the ETO and Mediterranean Theater, held 25 November 1944 in Cannes, France, leaders reconsidered the integration problem in theater, and ultimately assigned the service groups directly to the combat elements against General Knerr's advice:

> "At the conference during the discussions, a number of people present indicated that they thought I had too much to do. They didn't think that one man could carry the load without cracking up because of the amount of detail involved. While I didn't personally feel I was cracking up, I felt compelled to carry General Spaatz's decision out, not only in letter but in spirit, all the way through; and with the changed point of view, it seemed better to have a fresh mind to grab hold of the situation as it changed rather than have a previous mind that was firm in its belief that the previous system was better."[40]

This reorganization called for complete absorption and integration of the Air Service Command, and a substitution of the deputy system, to maintain a strong logistical structure. The service command was now simply relegated to a distinct and subordinate position in the USSTAF command structure. Further, USSTAF reoriented the alignment of its logistics functions during a 15 May 1945 reorganization decision to replace the deputy system with what was then the traditional five section "A" staff.

Robb
Edwards
Eaker
8th Air Force Staff
Chauncey
Knerr

Eighth Air Force Staff. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The driving force for realignment came from General Spaatz. His view was this type of organization, now orienting toward post-hostilities needs, was distinct from the requirements of active combat, which formerly supported the deputy system. Going forward, the concept of logistics which expanded supply and maintenance including all administration and services had lost acceptance. Therefore, it was no longer necessary to insist upon the dual division between operations and administration first recommended by Knerr to Eaker 26 July 1943, adopted in part 29 November when the dual-hatted role of combined VIII AFSC commanding general and A-4, and fully established on 6 January 1944 by Spaatz.

The argument in Washington that supported this realignment was "you just don't have the people available who have the stature needed on the administrative side to handle the whole thing that you can get a good supply and maintenance man, but you just can't find a Knerr on every tree, and you have to have a man of the breadth of vision and strength of personality to maintain that position."[41]

Contemporary Application

Researchers concluded that the structures of Air Force maintenance organizations are influenced toward either centralization or decentralization through three factors: (1) force increase or decrease, (2) budget increase or decrease, and (3) the presence or cessation of major conflict.[42] A longitudinal study concludes that the period when the AAF was deployed in World War II, and the establishment of the USAF in 1947, and for the greater part of the following decade was a period of "trial and error."

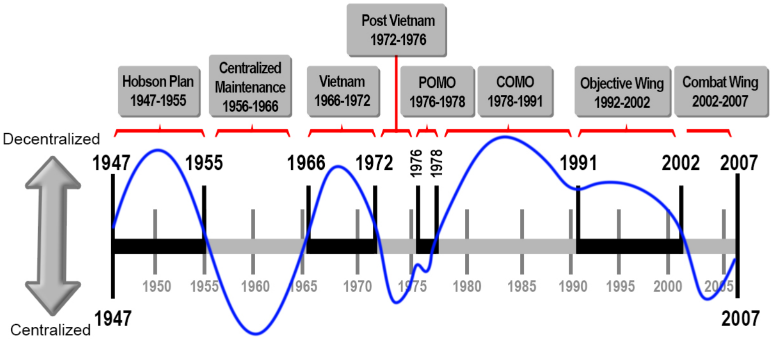


Figure 1. Centralized-decentralized cyclicality timeline, Durand, 2008.

The push-pull effect of organizational centralization and decentralization, both at local and headquarters levels, had relevant implications during the time of Knerr's career and the writing of his memoirs in 1971 as America was engaged in the war in Vietnam. It has relevance even today as maintenance and supply leaders conceptualize organizational hierarchies and adapt them to modern contingencies. Similar to Knerr's experience in World War II, in Vietnam insufficient lead-time in planning led to the mobilization of personnel and aircraft outpacing needed supplies, and the adoption of "rubber on the ramp" policies that accepted the risk of deploying fleets of aircraft without requisite spare parts and service equipment or personnel.[43] The large-scale automatic push logistics systems due to Knerr and his contemporaries, an innovation of World War II era logistics, were implemented in Vietnam in operations such as project Bitterwine. Outsized functionally designed supply packages were pushed in 15-day increments. This enabled rapid mobilization, but also led to poor storage and problems with intransit visibility and lost supplies, which were then re-requisitioned creating a compound problem. The advent of computerized supply systems, though sophisticated for its time, was not enough to handle requisitioning information between field units and often resulted in mass centralization of supplies. Field units often were forced to send runners back to the rear on foot to depots to hand carry supplies back to their units.[44] Lessons learned from problems created by the over-centralization of skilled technicians and maintenance resources in Vietnam, combined with Israeli Air Force successes during the Yom Kippur War of 1973, led the Air Force to realign its maintenance organizations to improve combat capabilities. For this reason, the Air Force adapted to a more decentralized "squadron maintenance" concept called production-oriented maintenance organization, or POMO, later renamed the combat-oriented maintenance organization or COMO. The lasting effects still influence the design of the present-day field units such as the recent reorganization of flight-line maintenance within Air Combat Command in the form of the "independent" fighter generation squadrons.[45] This decentralized approach created an environment wherein "the entire unit deploys and moves forward or remains until the work is complete, and then returns home. The change ensures the home commander is the same while deployed." "In this way, pilots can focus on their mission, and maintainers can focus on their mission."[46]

What was Knerr's internal motivation on the importance of logistical factors? What compelled him to the conclusions of the widest possible definition of logistics to include "everything but operations," that drove the "two-deputy" system around which General Spaatz would later organize the Eighth Air Force? In his memoirs, Knerr offers:

> Almost from the earliest time I was a Squadron Commander, I saw the subject of logistics and its vital bearing on everything a person had to do. Later, as a group commander with the 2nd Group, I had that forcefully impressed on me

> as a matter of experience and, again, during the '20s when I had that experience, the doctrine of the employment of airpower was developed. I was in the role of the innocent bystander that gets in the line of fire and then qualifies as a material witness, but as a result I was able to arrive at some sound conclusions, and they were developed into doctrine.[47]

Historians attribute similar, early held, definitions of logistics to Antoine-Henri, Baron de Jomini. Jomini conceptualized the principle of *concentration*, the strategic value of the central position and interior lines, and the close relationship between logistics and combat.[48] Historians acknowledge that Jomini may have been the first to coin the term "logistics," an all-inclusive term used to describe, "provisioning of troops, supply of munitions, medical services, and securing lines of communication between separate components of a field army and between the army's base of operations and the theater of war."[49]

In 1888, US Navy Lt Charles C. Rogers introduced the subject of naval logistics at the Naval War College, just four years after the college's founding. Jomini's century-old strategic view of logistics was later adapted by Adm Alfred Thayer Mahan, who contemporized this broad definition of logistics. Admiral Mahan relied on the term "communications" instead of logistics designating lines of movement. Mainly, a military body is kept in living connection with the national power, "communications mean essentially, not geographical lines like the roads an army has to follow, but necessary supplies of which the ships cannot carry in their own hulls beyond a limited amount." Further writing, "to secure free and ample communications for one's self, and to interrupt those of the opponent are among the first requirements of war."[51] Though it is unknown why Mahan relied on the term *communications*, it is clear that he recognized the principles of the effective flow of information and materials that would later define supply chain management, and especially interesting that he would amalgamate the two.[52] Admiral Mahan also espoused the belief that preparedness for war in peacetime was the best way to preserve peace, which became influential in the public and private expansion of the military prior to US entry into World War I.

Knerr's "arrival" at these conclusions, as he states in the aforementioned quote, borne out of the necessity of his assignments, is possible; the foreground of rapidly advancing technologies, aside from the insufficient groundwork for procurement, provisioning, distribution, and management, was certainly daunting. Some authors described it as a period at the turn of the century in which "twentieth-century warfare demands that the blood of the soldiers must be mingled with from three to five parts of the sweat of the men in factories, mills, mines, and fields of the nation in arms."[53] However, it is possible that he was exposed to these views much earlier, and his "arrival" was in part a confirmation of the existence of these conceptual views of logistics, and rather that Knerr gravitated toward them and adapted them; they were possibly *caught*, rather than *taught*. Admiral Mahan, for example, was still lecturing at the US Naval War College and was at the peak of his influence in government while Knerr was a midshipmen at the Naval Academy. This came during a period in the early twentieth century when the War College was producing some of the earliest theoretical work in the logistics field. And not long before publications of foundational works such as US Marine Corps Col George C. Thorpe's *Pure Logistics* published in 1917, which explored the theoretical dimensions of military logistics, expounding:

> Pure logistics is merely a scientific inquiry into the theory of Logistics—its scope and function in the Science of War with a broad outline of its organization. Applied Logistics rests upon the pure, and concerns itself in accordance with general principles, with the detailed manner of dividing labor in the logistical field in the preparation for war and in maintaining war during its duration.[54]

Admiral Mahan's lectures were likely far more advanced than the Fundamentals of Navigation, Principles of Mechanisms, Seamanship, and Ordnance courses that Knerr took as a midshipman between the years 1904 and 1908. It is very possible that Knerr was exposed to these ideas during his stint in the Navy, and interestingly they developed in parallel.[55]

These networked or system views of supply and maintenance, consistent with contemporary understandings, offer a perspective on some of Knerr's major contributions and his attempts to envision the demand horizon of his supply chain. An example of this view can be seen in Knerr's establishment of the network of specialized aircraft of the First Transport Group, enabling rapid communication channels and resource sharing between industrial depot sites, an airborne embodiment of information and material flow.

In another example of this view, Knerr established a standardized reporting system within the VIII AFSC through using statistical control units embedded in sections and at each depot location to coordinate operations. He flew in business experts from the United States to help establish these sections creating a model using a modern military vernacular—establishing a logistics common operating picture, otherwise referred to as LOGCOP, or LCOP—production control section within each maintenance department, which collected and reported production data to the centralized Statistical Control Office, and further collected status and production data to generate reports.[56] Included in these datasets were information on aircraft battle damage. After each raid, pilots reported any aircraft damage to a "stat" officer to transmit to headquarters for compilation and later transmission via teletype to Air Force headquarters.[57] These offices were located in rooms surrounded by blackboards covered in statistical data. At the Warton depot, for example, two officers and 16 enlisted men staffed statistical control. Notably, one of the statistical control officers of the Eighth Air Force was a newly commissioned captain, former assistant professor at Harvard Business School, and future US Defense Secretary, Robert McNamara, whose positivistic views would have significant and lasting influence on the US military.[58]

These statistics control offices compiled data on aircraft arrivals, backlogs, man-hours available, modification programs used, and parts manufacturing. They compiled, organized, then reported assembly and overhaul statistics. This data culminated in the depot's report to Headquarters Base Air Depot Area (BADA) and then VIII AFSC on their statistics covering final delivery and output.

However, these statistical reporting measures would at times come under contention as in the case of fighter aircraft production. Assembly and production were out of Speke and Renfrew sites near the Liverpool shipping ports of debarkation. Under-pacing the increased demand for fighter aircraft production from operational units, fighter commands desperate for more detailed information from the depots began to set up their own statistical control system, misaligning data reporting and leading to confusion.

Knerr, in a concerned memo to Headquarters Eighth Air Force, wrote:

> Attention is invited to the fact that the Fighter Command continues to engage in activities beyond their responsibility. Recently these activities have conflicted with the SCU, thereby causing confusion in the flow of statistics upon which this Command depends for control of its maintenance activities.[59]

During unannounced visits to each production site, Knerr investigated the low production numbers himself. Afterwards, he reported to General Eaker:

> I have not been satisfied with the performance of Speke and Renfrew and as a result of my own inspections, made without warning, determined that there was considerable job-stretching going on. The maintenance of a sizable back-

> log of work controls the output rather than your desire for as many aircraft as fast as possible."[60]

Colonel Ott, BADA commander, later verified this situation of constrained production.

In response, a concerned correspondent with the Minister of Aircraft Production, Sir Stafford Cripps, wrote of the irregular and unsatisfactory production, "The accomplishment of our common military objectives requires that aircraft be processed with all possible speed as they arrive rather than accumulated as a backlog to achieve production efficiency as measured in a purely commercial establishment."[61]

Through this assessment and conclusion, Knerr addressed the ineffective delivery by determining it was the increased backlog that was controlling production and output, rather than customer demand. Interestingly, present depot doctrine takes a similar view. Modern depot logistics leaders understand these concepts in terms of the Theory of Constraints, critical path methodology, Little's Law, and the concepts of flow and throughput.

Air Force Depot Doctrine under the Air Force Sustainment Center (AFSC), commonly known as the *Art of the Possible*, states: "Process machines are designed to exceed customer expectations, reduce work in process (WIP), and increase throughput to expose capacity for increased warfighter support."[62] Where "speed equals reduced flowtime" and "with speed comes WIP, with reduced WIP comes reduced resource requirements." And where, "Throughput is King."

It is unclear exactly how Knerr came to adopt these functionally aligned, data-driven systems-focused views of logistics, but he certainly had a knack for it. In his memoirs, Knerr's reminiscence offers a subtle indication of the early influence his experiences had on him. For example, he writes of his formative years in the Navy stating, "each individual in the ship's company had his well-known function up and down the ladder of authority. I began to think I would like a naval career." These understated views, that Knerr would refer to as "commonsense solutions" and what others would later come to know as the "organizational genius," were foundational to his designing the functionally aligned Eighth Air Force staff and organizational structure, and his exercising the theatre-wide authority of logistics, while assuming the "dual-hatted" position of both deputy commanding general for administration and commander of the VIII AFSC under Gen Carl Spaatz. A period Knerr described when he said:

> Modern war is rapidly developing into a logistic struggle. The importance of the tactical weapon is therefore overshadowed by the supply organization which supports it. This is a consequence of the mechanization of war. This exchange of relative importance has not been duly recognized, and as a consequence, the means for meeting the changed situation have been neglected.

Royce
Spaatz
VanDenberg
Knerr

Eighth Air Force staff and organizational structure. ***Left to right*****: Royce, Spaatz, Vandenberg, and Knerr. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.**

After World War II

Knerr, while in the ETO, was afforded respect far beyond his rank by the highest-ranking British marshals. As one of the early flyers and aviation pioneers, they respected him for his authorship and advocacy for the US autonomous Air Force. At the conclusion of the war, the British ambassador awarded him the medal of the Most Honourable Order of the Bath, Military Division, in the name of King George VI.

After Victory in Europe Day, Arnold asked Knerr to command the recently established Air Technical Services Command (ATSC) at

Wright Field. This new organization resulted from the combination of Air Service Command and Materiel Command. The previous commander, Lt Gen William Knudsen, had been relieved partly because of the illegal fraud on the part of his deputy, Benny Meyers. Knerr commanded ATSC during a critical peacetime transition.

After that assignment, he earned appointment as special assistant to the chief of staff, Headquarters USAF. Here, Knerr was involved in essential Air Force decisions, including the somewhat apocryphal "origin story" of the design of the USAF uniform. He discusses how he found himself at odds with Gen Hoyt Vandenberg, who favored a dark blue with gold buttons; Knerr's suggestion, later adopted, was that a blue with antique silver buttons would be more practical in working with airplanes. With his assignment on the advisory board for the independent Air Force, Knerr became the Air Force's first Inspector General, leading many structural changes, among which was establishing the Air Force Office of Special Investigations. He states,

> Experiences with Inspector-Generals had convinced me the established concept of the office was wrong . . . aimed at finding fault. I decided to turn the whole system upside down and view it from the bottom, rather than from the top. My objective would be to give local commanders the tools with which to ensure their efficiency.

The conclusion of Knerr's memoirs, abrupt and oddly Odyssean, places him at the end of his USAF career in Epping Forrest near Annapolis, Maryland (he later retired to Coral Gables, Florida, where he spent the remainder of his years). In his diary, Knerr writes of his home at Epping Forest, indicating how he regarded this home as a sort of sanctuary that he left to fight a war and returned to at its end.

> Our place was pleasantly located on Clements Bay, an arm of the Severn River and the Chesapeake Bay. Six acres of woodland waterfront gave us a beautiful site for the house and deep water for the ketch. A switch-back trail led up from the dock. Wildlife was still abundant: small animals: osprey bald eagles, ducks. An immense chestnut tree, dead from the blight, stood on the edge of the bluff opposite the house. When I cut through the three-foot trunk, I exposed a scar where a peg had been driven by some Indian or earlier settler. The following pages of my diary illustrate this good life.

After retirement he continued to write and publish. Notably, in 1950, he called for service academy reform, proposing the scrapping of plans for the new Air Force Academy, and recommending that service academies adopt a post-graduate model for commissioning undergraduates from civilian colleges, also known as the "Sandhurst" model used by the British.[63] In 1961, at the age of 74, he took a home study course and earned a trade certification in transistor technology.[64] Knerr spent a great deal of time experimenting with timing circuits in the basement of his home. He served as an aviation consultant to the city of Goral Gables.[65] In 1962, he was elected board chairman to Southeastern Airways, a small regional feeder airline of Southern and Central Florida.[66] In 1965, during a trip with his wife, Hazel, to visit family in Dayton, a local paper interviewed him about his research into laser image projection for television.[67] He and Hazel had recently celebrated their 55th wedding anniversary; Hazel added that they were "the oldest retired Air Force couple." Knerr succumbed to cancer in 1971, at the age of 84. His wife donated his papers to the USAFA Special Collections Library. Hazel survived Hugh for nine more years. They are buried together under modest headstones at Arlington Cemetery, along with their two sons, Barclay, who died in childhood, and Hugh Salisbury, later buried in 1978 next to his wife, Sallie Frost, who died in 1988. The graves are situated about 100 paces from General Arnold's headstone, and about 250 paces from General Andrews' along the southern periphery of the cemetery grounds, laid within a clear view of the skyward contrail spires of the Air Force Memorial.

Through Knerr's story, we can trace the advancement of the USAF, its logistics warfare doctrine, and its organizational and technological development. His portrait hangs in the National Museum of the Air Force in a far back corner with no mention of these contributions, but rather briefly describes his relationship with his dear friend Frank Andrews. Knerr's fierce pursuit of excellence, visionary leadership, and unabashed authorship set an example for our Air Force as it strives to be ready, relevant, and lethal. Though other names have been commemorated in Air Force history, Knerr's has, for some reason, been overlooked. And yet his legacy endures as testament within the organization we see today.

Notes

(All notes appear in shortened form. For full details, see the appropriate entry in the bibliography.)

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Chapter 1

Early Days in Kansas

1887–1904

The stream of wagons carrying settlers to the recently opened Cherokee Strip down in Indian Territory, occasionally passed near our place south of Atchison, Kansas, on their way to that promised land. The Atchison, Topeka, and Santa Fe Railroad followed this route; however, there were independent spirits who, either from choice or necessity, preferred to load family and possessions into wagons and make the move on their own.

Old-timers among our neighbors recalled Atchison's more lusty days of mud, sweat, and brawling mule-skinners down on the levee where Clay Creek mingles its gray silt with the chocolate brown of "Old Muddy." There the steamboats transferred their loads of freight and apprehensive people to the Hollaway Stages or to the Russel, Major, and Waddel wagon trains for the long, hazardous, westward journey. The largest of these freight outfits to cross the Plains left Atchison in 1856 with 220 men and 106 wagons.

The shouts of drivers, chika-shak-chuk of wagons, and the cheerful greetings of people on their way to adventure land marked in my history and geography books as *Los Estacados Llanos*, had a powerful effect on the kids in our sparsely settled countryside.

These circumstances and the tales we heard of Sitting Bull, Crazy Horse, Geronimo, the Custer Massacre which occurred read only ten years before I was born, inspired us to form a little band of "Pawhee" Indians, ages six to ten. We would show the sodbusters what they were getting into west of the Missouri!

In the fall of 1896, on a misty morning before the chill in the air had been dispelled by a laggard occurred read ard sun, our chores were interrupted by a shrill alarm from "Skinny" Stough; he had spotted a group of "movers" coming up from the river. We dropped whatever we had in hand and rushed over to his barn, where we kept our Indian outfits and a stock of well-seasoned elm switches. With a clay ball stuck on the end of a switch, we would rear back and hit a washtub at forty feet most of the time.

We then ran over to the Ingalls Woods where the wagons would pass and hid in the roadside brush among the Osage orange trees. I agreed to pick off the lead team while the others delivered rapid-fire on the wagon covers. Wild Indian yells and bobbing feathers usually produced satisfactory results. The jingle of harness, and jangle of pots and pans were heard soon as the blowing horses struggled up the muddy hill. Presently, a four-horse-team drawing a big Conestoga festooned with the odds and ends of farm gear, came slowly over the rise. We were happy to see a washtub on our side of the wagon but chagrined to find two big kids with their dogs following the wagon—we previously had a sad experience on another occasion when bigger kids had caught us. A big tub overcame our fears and when the lead team came opposite my stand, I sprang up and let fly with my best sidewinder. My aim was good. The crash on the tub, the rattle, bang, and thump of mud-balls on the wagon cover, and shrill cries of feathered "Indians," together with a solid hit at the tail of the nearest horse, panicked the outfit. When the driver stood up to see what happened, he was jerked off his feet and fell back into the wagon, whereupon the whole shebang took off down the other side of the hill in a confusion of slithering horses, yelling men, screeching women, and yapping dogs.

Without waiting for certain consequences, we scattered far back into the safety of the woods—another scalp of cornsilk to hang in our clubhouse.

I established my identity in time and space by a frightening incident that occurred in the summer of 1890. We had just arrived at Midland College, near Atchison, Kansas, from Parsons College at Fairfield, Iowa, where I was born on the 30th of May 1887. Father was to be the new Professor of Sciences at Midland. I was in a buggy with my parents and small brother Dace, riding up a hill toward the frame of a house starkly outlined against the fading western sky when a giant in old clothing, suddenly burst through the roadside brush and yelled for us to stop. Mother had difficulty controlling me until she explained that the man was a carpenter building our new home. I was three years old, but never forgot Mr. Zimmerman.

The image of our parents became more and more defined as we grew older. Father was solidly built, square, and sturdy, with curly brown hair and a mustache; he held degrees in chemistry and physics; his example of industry, self-reliance, good humor, and strict moral honesty put us in good esteem throughout our lifetime. Mother was tall, fair, very beautiful, and greatly admired for her wit and happy disposition. She played the guitar while father played the piano at college Glee Club gatherings.

Father was born 3 December 1861, near Rochester, Minnesota. His full name, Ellsworth Brownell Knerr, was inspired by an incident that had occurred the 24th of May that year. Colonel E. E. Ellsworth, a federal army officer, cut down a Confederate flag flying at the Marshall Hotel in Alexandria, Virginia, that President Lincoln could see from the White House. The proprietor of the hotel shot Colonel Ellsworth, and in turn was shot by Private Brownell, a member of the colonel's detail. Private Brownell was awarded the first Medal of Honor of the Civil War, posthumously.

Mother was born in 1867 at Easton, Maryland, the eldest daughter of the Reverend H. J. Barclay, a Lutheran Minister. The Reverend Barclay was called to the First Lutheran Church, Dayton, Ohio, in 1884. Ellsworth and Elizabeth Barclay became devoted friends at Wittenberg College and were married by Dr. Barclay on the 2nd of September 1886.

When I was six years old, our parents took Dace and me for a visit to their folks at Dayton, Ohio. We stopped off at Chicago to see the Columbia World's Fair of 1893. I became lost on the Fair Grounds and a policewoman restored me to my frantic mother; she was torn between the impulse to hug or spank me, she did both.

We were overwhelmed in Dayton by the grandparents and their family of three boys and three girls. We were teased by the men-folks and mauled by the girls until we could escape to the cellar or the attic of the big house with Herbert, the youngest uncle. He was only a year older than I.

I was diffident with grandpa, a big man with a heavy German accent and a General Grant beard. He scared me stiff until I discovered his manner was but a pose for my benefit and was really a soft touch under all those whiskers. When we became better acquainted, he would take me on his knee beside the fireplace in his study and tell me stories of his early days in the Wisconsin wilderness as a lumberjack. He told me how, at the age of seventeen, he had come to America with the rest of the family by sailing vessel, after his father had established a home at Toledo, Ohio. The voyage took three months. Many passengers died from lack of water.

Grandpa became a citizen of the United States on 6 October 1856. Grandma was my refuge when things became too rough; she was a small, gentle, hausfrau, with German traditions—"Kinder, Kirche, Kucken" still in her bones and the spoiling of grandchildren.

Hugh Knerr, 1889, "two years old and [who] wants to make something of it?" The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The 1893 visit was followed by others when we grew older. The most exciting visit was the one when the folks tied tags to our coats and turned us over to Mr. Hulse, the Missouri Pacific conductor, who passed us along to another conductor at St. Louis for delivery in Dayton, Ohio. We had vivid memories of the vast smoky cavern of the St. Louis station, echoing with bells and whistles of trains, the rush of people, our worried vigil, hand-in-hand at the Station Master's desk, and the wonder of the great bridge across the Mississippi River.

At Dayton, we were treated like prodigal sons on these occasions. There were many new and exciting things to do. Aunt Ada and Orville Wright had been good friends while students in the public schools; consequently, when the family bicycles needed repair, my chore was to take them over to the Wright boys' shop. Wilbur did not welcome these visits because I got in his way. Orville was more patient and let me help a little sometimes while he worked on his kites—it seemed strange to me that a big man wanted to play with kites. From the shop, I liked to go on out West 3rd Street to the Old Soldiers Home and visit with the Civil War veterans. I suspected their stories were richly embroidered, judging by the loud laughter of their companions.

We were always glad to return home from the Dayton visits. Big cities with their noise and smell worried us. Seeing so many people bothered us. Life was not at all like ours in wide open Kansas, where houses and fences were few and far between, where the air was easy to breathe, and where the South Wind seemed to be a happy wind, the East Wind a friendly wind—the West Wind a restless wind—and the North Wind a troubled wind. The weaving patterns they stirred in the long grass on the college campus gave substance to their presence.

Back home, we bounded out of bed into crisp new days, while the stars were still sparkling, the meadowlarks sleepily rehearsing a program, and the sun still lingered below the eastern horizon. Every day was but an installment of forever that would produce another adventure. It seemed we always ran out of daylight.

Now and then, something happened to spoil a day. One was marred while I was practicing with a bow and arrow I made from a discarded umbrella. A stupid chicken ran into the line of fire and ran around the yard squawking to high heaven with an arrow sticking through its neck. I was sure my punishment hurt me more than the arrow hurt the chicken.

By the time I was ten years old, I had formed many close friends on the campus. Howard Stough was the best one. Howard's father was a professor in the Theological Seminary of the College as well as a carpenter. He helped build our clubhouse high in a nearby hickory tree.

Dr. Stough was a tall, skinny, man with a bushy beard. He said he wore the beard so he would not have to wear a necktie. His buffalo overcoat smelled like the Kickapoo and Potawatomi Indians at the depot on Saturday nights.

Access to our clubhouse was by a ladder, drawn up when a meeting was held to prevent girls from spying on us. In the club, we had many finds from the surrounding countryside: a buffalo skull with horns, my stuffed skunk with the head on backwards to give it better aim, a rusty Colt pistol, an old clock that we could not make run, and many other relics. We maintained communication between our homes through a thin wire fastened to the bottom of a tin can at each end, when rubbed with rosin made a loud noise in the cans. If you yelled loud enough, you could make out words at the other end.

Chores made it difficult to get all members of our Kinder, Küche, Kirche Klub together at the same time.[1] This caused us to pass a unanimous resolution at one meeting that parents were most unreasonable to make us cut the lawn, clean the stable, water the horse, feed the chickens, hoe the garden, and squash potato bugs, until most of Saturday was wasted. Father was an enthusiastic gardener. Our miniature farm below the barn produced all kinds of vegetables to augment the staples bought at Garside's Grocery. Mother liked to preserve the excess in Mason jars and arrange them in neat rows on shelves in a cool, dark corner of the basement. Her experiment with spiced peaches turned out to be spiked peaches; she was upset when Father threw them out.

I loved my mother, but sometimes I did not like her. I thought she was mean to always ask where I was going, where I had been, who I played with, and why I was late getting home from school. I thought Mother was the most curious person in the world. Many years passed before I realized how concerned she had been for my welfare.

Although Father was lenient and indulgent with our activities, he could be severe when occasion demanded. I found that out early when he caught Dace and me playing with matches in our overstuffed attic. I was surprised to find that a yardstick could pack such a wallop!

My favorite escape from responsibilities was the ivy-clad tower on the main building of the college. I would climb up a ladder through the trapdoor in the ceiling above the stairwell to scan the limits of my world: the forest to the south; Atchison to the north on the Missouri River; the river winding away to the northeast toward St. Joe, with an occasional steamboat threading its way among the sandbars; and the hills rolling away in shimmering billows to the western horizon. High in my place in the soft summer air, the distant sounds of cattle, children, meadowlarks, and the mournful whistle of a train on its way to far places, vaguely disturbed me with visions of adventure. Those dreams almost ended one day when a rung of the ladder broke off, and I fell to the platform below. Fortunately, I suffered only bruises which I had trouble explaining when Father cut my hair the next day.

When the green, red, and gold of hickory, oak, and sumac heralded the advent of Fall; I knew the nuts, persimmons, and pawpaws would be soon ready for the taking. A quiet spot in the glen, between our place and the Ingalls, was a frequent objective on my way home from school. There, beside a big rock underneath overhanging willow trees, the silence accented by the whisper of falling leaves and ripple of the shallow stream, I would defer long as possible my scheduled meeting with potato bugs.

Winters were bitterly cold! The West Wind brought a blizzard that penned us in the house for days at a time. We lingered in our warm beds as long as possible and watched the sifting snow drift across the windowsill into little windrows. At the last moment, Dace and I would dash downstairs to the kitchen, warm and fragrant with the aroma of bacon and steaming coffee, where mother was mixing batter for hotcakes, and father just in from the barn, stood warming his hands over the kitchen stove. The stove had a fancy scroll on the oven door—THE MIDWEST STOVE WORKS—I was sure it did because I had to keep the wood box filled, regardless of freezing wind or slashing sleet. My parents did not pamper their kids in those days.

Mother was patient with us underfoot, but she did not hesitate to dust us off when we deserved it. When I annoyed her beyond endurance once, she took after me with the butter paddle. In the pursuit around the kitchen, her skirt caught on the corner of the box. When she fell, she broke her arm at the elbow. Thereafter, I was plagued with remorse when I recalled her stiff elbow.

A redeeming feature of such winter days was the need to stay home instead of tramping through the two miles of snow to school.

“Buffalo Bill” Cody brought his Wild West Show to town in 1898. He said he liked Atchison because he got his job as a Pony Express Rider here through Mr. Russel, one of the proprietors of the Overland Stage Company that operated down to Dodge City and Fort Laramie. Father took Dace and me to the first show, but Howard Stough and I sneaked off to see the second show alone. It was a great show with a real Indian raid on a stagecoach. For the final act, Cody rode his slowly galloping horse around the arena behind a buckboard from which a cowboy threw glass balls into the air for Cody to break with a 22-caliber rifle.

After the show, Howard and I followed a group of small boys around to the picket line to see Cody close at hand. He was an imposing figure, although not as big as I had expected. Cody put the gawking kids at ease when he asked us what we thought of his show. We told him we thought the Indian raid was the best deal—which was hardly polite. When one of us asked to sit on his horse, he told the hostler to toss him up—that was a mistake—all of us had to have a turn!

Our range extended far into the hills west of the campus. We sometimes found relics of the days before the railroad was built; mostly discards from the stages and freight wagons that began their westward journey from the river crossing.

When a glistening fringe of crystal appeared along the eaves outside the kitchen, we knew that Summer was not far away so we could discard our shoes until school opened again in the Fall. New shoes would have to be bought then—ours cost the same as the horse's—one dollar a foot.

The heat of summer and occasional gully washers were little noted and soon forgotten—except the night lightning struck the barn and killed the horse; the loss of old Dave was a real calamity since he was our only means of transportation. Father was cheerful about the matter, but mother was exasperated because Dave was safe for her to ride—how she managed to stay on the sidesaddle in her long riding habit was a marvel to me.

Sometimes father took us with him and deposited us in his museum under the skylight on the top floor of the main building while he conducted his classes in the laboratory below. Many interesting things kept us occupied there: a twoheaded calf, an Indian coupstick, countless arrowheads, and geological specimens he had gathered on his prospecting trips along the Kaw River valley.

Senator John J. Ingalls lived across the ravine from our place. Sometimes on my way to school, I would see him walking about his spacious grounds leaning heavily on a cane. The folks said he had a misery in his legs which resulted from an injury he suffered during his early days in turbulent Kansas.

The Senator was tall and thin; he had a beak-like nose and piercing eyes which gave him the appearance of a hawk about to pounce upon me when he looked my way; instead, he would wave in a friendly fashion. Once, I found a silver dollar in the dust at his gate and offered it to him; he insisted I keep it. I suspect he planted it there for me to find.

Ingalls was a former editor of the *Daily Champion*. It was in competition with Ed Howe's *Daily Globe*. Although Howe was a good friend of my mother's, I worked up a paper route for the *Champion*, and collected ten cents a week from each customer—one old lady still owes me because her dog beat her to the paper. When widening horizons demanded more than my paper route could support, I sold it for ten percent of the weekly take—the paper folded not long afterward.

When father paid his bill, Garside's grocery on our side of town was a bright prospect at the end of each month. I always went along to get the little bag of candy Mr. Garside gave me. I dreamed of owning the store so I could have all the candy I wanted. Naturally, when the job of driving the delivery wagon became vacant, I applied for it. Mr. Garside was dubious about hiring a boy my size but decided to take the risk.

The lean-to back of the store where the horse was kept was crowded with baled hay, sacks of grain, rope, farm utensils, kerosene, fertilizer, and so forth. The combination of these articles and Daisy's habits cast a cloud over the prospects of $2.50 a week. I tackled the job with an enthusiasm that so pleased Mr. Garside, he invited me to help myself at the candy counter.

A new member of our family arrived on New Year's Day of 1900. My brother Barclay was born. We had rather expected such an event and were apprehensive, lest the new baby would be a girl. I knew Dace would not have wanted it to be her; I was sure I would not. Why expect the newcomer to be her?

After graduation from the public school, I entered the Midland Preparatory Academy where I became a participant in campus activities. I now considered girls to be pleasant companions rather than an unfortunate variety. A new world opened to me in the classrooms where the instructors could teach anything in English, Latin, Greek, or German. I chose Latin for its technical value.

I enjoyed father's lectures because of the humorous twist he put into his teaching. One discourse created a commotion when he asked for opinions regarding the origin of life on Earth; a Professor from the Theological Department responded with a lengthy lecture of his own concerning our creation in the image of God. When father commented that life may have evolved from cells trapped in fragments of sedimentary rocks from outer space, the professor left in a huff.

The daily routine began with a brief service in the auditorium with the faculty seated on the rostrum and the student body restive before them. When the organist played the Doxology at the end of the service the sparrow horde quarreling in the ivy outside the windows, seemed to join in with undue fervor.

In the spring of 1903, Congressman Charles Curtis invited me to take an appointment to the Naval Academy.[2] I wondered if the neighbors had something to do with the idea. I was dubious about a naval career. I had my mind set on being an engineer and did not like the thought of leaving my happy hunting ground, but I took the examination to please the folks. Father was disappointed when I failed to pass the mathematics test: he gave me a severe lecture concerning: “if at first you don’t succeed, try, try, again.” I resolved to correct my negligence, and with the assistance of Sheffield Ingalls obtained permission to take a competitive examination at Topeka for an appointment the next year. I won that contest and entered the academy in June 1904.

Mother was upset when it came time to leave home. At the depot, father was calm with safe advice: “Don’t start anything you can’t finish, but finish anything you start,” and “consider the advantages and disadvantages of any proposition; if in doubt, don’t.” Brother Dace wanted to go too. Barclay, four years old, clung to mother’s skirts, wondering. The conductor’s “All Aboard” . . . a misty glance through the dirty coach window . . . a toot, . . . a jerk, . . . and I was on my way to an unknown destiny beyond the broad Missouri.

Notes

1. Reference to Kinder, Küche, Kirche Klub, an anachronistic German proverb used by Knerr’s Grandmother previously; translates to English as *children, kitchen and church.* A subtle suggestion to the innocence of the age.

2. Charles Curtis would go on to serve in the US Senate, then later as the 31st vice president of the United States from 1929 to 1933 under President Herbert Hoover.

Chapter 2

The Naval Academy

1904–1908

Midshipman Hugh Knerr, 1906. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

I stopped off in Dayton on the way to Annapolis for a brief visit with the grandparents and Uncle Harry's hilarious crew. Grandpa had retired from the management of his mill to enjoy the retirement of a successful businessman. My Aunt Ada brought me up to date on the activities of the Wright boys. She said very few people believed they had flown like the birds at Kitty Hawk a few months ago. Grandma saw me off with her customary box of fried chicken.

In fabled Washington, I hurried through the ancient depot on Pennsylvania Avenue to the Baltimore and Annapolis interurban station. On the way through the depot, I stood on the bronze star that marked the spot where President Garfield had been shot—I was struck with an awesome sense of tragedy.

I arrived in Annapolis after a noisy, bouncy ride that really shook me up. I was disappointed. It was not the glamorous colonial city I had imagined. I found it to be a small town with narrow brick streets and small houses, huddled together as if for protection. This impression was dispelled when I suddenly came to the State House where Washington had resigned his commission. From this point on, Annapolis lived up to my expectations.

I passed beautiful gardens and colonial mansions, half-concealed behind ivy mantled walls of antique brick; I stumbled along deeply worn walks, which were surely the same as those trod by the signers of the Declaration of Independence. I had read about these things, and now I was touching them.

Down on the waterfront, the smell of seawater, tar, and fish was strange to me. The talk and shouts of Negro boatmen on the vessels tied up in the basin was a new sound in my Kansas bred ears. The Chesapeake Bay, bright and dazzling, stretched away to the horizon.

My maternal grandmother, in Baltimore, had given my parents the address of Judge Moss in Annapolis where I was to stay while waiting to enter the Naval Academy. I found the Moss residence on Spa Creek, across the street from the Carroll Mansion, without difficulty. Mrs. Moss was most kind and solicitous to make me feel at home in an attractive room with a fine view of the Bay. The gnawing sense of homesickness left me when I contemplated a visit to the Naval Academy for the next day.

At the end of Maryland Avenue, I came to an iron gate guarded by a sentry armed to the teeth. I judged this must be the entrance to the Naval Academy. When I asked if I might see inside the prison, a hearty laugh burst forth from inside of the guardhouse—I wondered why!

Massive walls to the right and left of the gate suggested the image of a walled city, built to repel invaders or to protect entrenched despotism within. Before me spread a lovely prospect of neat lawns, stately trees, and a view of the Bay. Work brick pathways, bordered by flowering shrubs, led me past marble monuments of naval heroes. Cannons from the Mexican and Tripolitan Wars were there, and a large statue of an Indian—wondered what he had to do with naval war. To my left, I saw two large vessels at dockside; one, a wooden hulk without masts and the name *"Santee"* on the stern, the other a square-rigged ship *"Severn."*

Beyond the statue of the Indian loomed the bulk of a granite palace still under construction, set high at the top of broad terraced steps, and flanked by an equally impressive building. Far out in the Bay, a large vessel with six masts in a row apparently was not moving for lack of wind.

All of this was very inspiring; however, I felt presumptuous to be claiming access to such grandeur—I had better go back to Kansas where life was less pretentious.

My attention was fixed by the sound of a bell striking eight times. By my watch, it was four o'clock. While I tried to figure out the meaning of the double strokes, a company of uniformed men emerged from a distant building and strode in precise cadence toward an unknown destination. Midshipmen! I thought I could be one of them soon. I had enough for one day. When I passed through the gate, the same voice that had greeted me, called out: "Did you see the warden?"

The 6th of June 1904 was an exciting and eventful day. A hectic round of drawing equipment and being measured for uniforms followed the ceremony of induction. A newly armored knight could not have felt prouder, nor more uncomfortable and self-conscious than I, in the stiff, unlaundered middy suit. I marveled at the speed with which the tailors measured us for the tight dress jackets with the round brass buttons; at the high stacked shelves of books, clothing, and small articles; and at the neat leather case containing shiny instruments, all dumped into a laundry sack for us to tote across the grounds to a distant barracks.

We were assigned to quarters in the old brick barracks at the west end of the Academy grounds as the new Bancroft Hall was being finished. When we gathered at the entrance to pair up for roommates, I noted the name Denney, from Missouri on the list of our Class. Denney was stocky and muscular, whereas I was tall and skinny. I figured he would be good insurance in the strange environment. He agreed with me. The first summer passed with drills on land and on water under the supervision of upperclassmen deprived of leave for some infraction of regulations. They, needless to say, did not enjoy the assignment any more than we did.

When the three upper classes returned from their summer activities, we were assigned to companies and battalions. Members of the third class, recently plebes themselves, lost no time impressing us with our lowly status. Although deplored by politicians, I received plenty of hazing.

At age seventeen, I was the youngest member of our class. That fact came out during a hazing session since I was so young and came from Kansas, if I knew "Billy the Kid." Despite my denial, I had to tell everything about him. I remembered the dime novel about him and added further details which brought howls of derision or appreciation, and the name of "The Kansas Kid," for me.

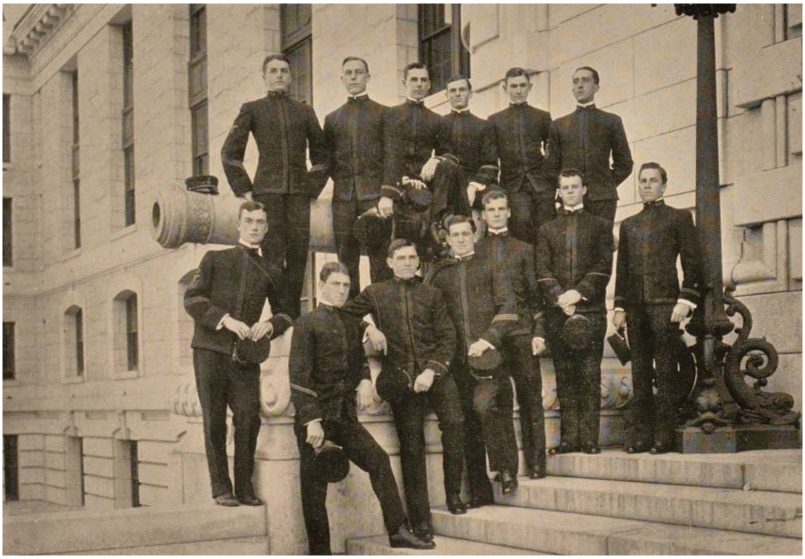
Among other stunts, I had to get up before reveille in the winter cold, go down the hall to the room occupied by Spruance and McSheey, shut their window, turn on the radiator, very gently awaken my tormentor, and recite a Bible verse from memory—all with gestures befitting Grandfather Barclay.

The first academic year was the toughest of the four-year course. Many fell by the wayside. Thanks to my early training, I had no difficulty. Our routine was pleasantly interrupted early in December by the move into Bancroft Hall.

The strenuous activities of that first summer served to convert the undisciplined product of every state, and from every social status, into a body of alert young men, increasingly conscious of their responsibilities. Needless to say, high spirited exploits were frowned upon by the Department of Discipline and their enforcers, the Jimmy Legs. Getting caught was considered a criticism of methods.

The academy is surrounded by a high wall to keep the midshipmen in and undesirable characters out. The fact the wall was there, proved a standing challenge to keep us from "Frenching Out" into town on the other side. Occasionally, a few heroes made it while others received many demerits. Without leave, it took all the next summer to work them off. I did not consider it worth the price.

Everyone was required to go out for some form of athletics. I tried football until I frequently found myself at the bottom of the pile of muscle men with Jack Shafroth's cleated foot in my face. I switched to the Rifle Team, where I felt more at home with a gun in my hands. As a permanent member of the team in collegiate and national matches, I won my "Navy N." Then I won gold medals for Distinguished Marksman with both pistol and rifle in later years.



US Naval Academy Rifle Team; Knerr is on bottom row, fourth from left. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

When the first class graduated, we emerged from our bondage as plebes and embarked on the cruise ships, *Severn, Hartford,* and the monitor *Florida.* The *Severn* and the *Hartford* were square-rigged ships. The *Hartford* had been Admiral Farragut's flagship at the Battle of Mobile Bay in the Civil War but was still in commission. Manpower for working the ship was furnished by a crew of midshipmen under the watchful eyes of capable officers and a few old salts left over from the days of sailing it.

The *Severn* was used for short cruises on the Bay. My station was on the main royal, the topmost sail, 100 feet above the deck. At the order "All Sail," my mate, Ike Giffen, and I would race up the *ratlin's*, around the main and top-gallant tops, and spread out onto the royal yardarms to set the sail—out of breath, but the view was grand.

The *Hartford* was used for our summer cruise up the Atlantic Coast. The first night out, we ran into a squall with too much sail on. At the call "All Hands," we tumbled out of our hammocks onto the slating deck and rushed up topside into a dark confusion of shouted orders, harping shrouds, and cold, wind-driven rain. We scrambled up the rigging in our bare feet and spread out on the yardarms to struggle with the heavy sails—one hand for the ship and one for ourselves—while the ship rolled and pitched in the heavy seas as if determined to throw us out into the inky darkness. Morning muster revealed no absentees, but the *mains'l* was a mess—we'd had blackberries for dinner.

The routine of working the ship kept us so busy, hauling on the main braces, the halyards, the brails, downhauls, and assorted gear, then scrambling aloft to clear a line or furl a sail. Off watch, we gathered in groups to listen to tales of the old-timers. Bos'n Murphy was a favorite. His powerful baritone voice could be heard above the howl of the wind and roar of the sea when he sang the chantey:

> Oh! A capital ship for an ocean trip
> Was the Walipin Window Blind,
> With a Captain mad and the crew, she had,
> She was the wildest a sailor could find.
> Her Bos'n's mate looked very sedate
> When sitting on the lea taffrail,
> salutes with the Captain
> Is boots in the teeth of a howling gale. Oh*!*

Our cruise the next summer aboard the USS *Denver* took us to the Madeira Islands, off the coast of Africa. I did not find that voyage particularly pleasant. I was restricted to the ship and assigned to the fireroom for my too enthusiastic development of plebes.

My introduction to the boilers was appalling. A blast of hot air struck me in the face when I descended onto the gratings. Below on the floor plates, men stripped to the waist opened and closed the fire doors to throw scoops of dusty coal into the inferno within or struggled with heavy slice bars to break up clinkers. The strident voice of the watertender high up between the boilers barely could be heard chanting his routine. Across my mind flashed a vision of galley slaves responding to the beat and lash of a proctor. I could not see the watertender, but when he saw me, he ordered me down among the sweating bodies where a coal passer hustled me into a bunker murky with coal dust. My job was to fill ashcans, drag them out onto the plates, and dump them handy to the stokers; four hours on, four hours off, day and night—I was given a day off when the sudden changes from the heat of the fireroom to the chill of the Atlantic threatened me with pneumonia.

At the Azores, I was relieved from the Engineer Department and assigned to duty as an oarsman in the captain's barge. Now, I thought I would be able to set foot on foreign soil when the captain made his port calls, but not so! When he stepped out onto the stone dock at Funchal, he looked at me hard and said: "Mr. Knerr, don't let me catch you ashore." I didn't, I enjoyed a fast run up main street and back before he could return.

The four long years at the academy were spiced now and then by interesting breaks in the routine; the football games at Philadelphia; the entombment of John Paul Jones in the crypt at the chapel; and the inauguration of Theodore Roosevelt on a cold, blustery, day. I stood directly below the podium in the formation of Midshipmen; heard his strangely high-pitched voice—ill-suited to a man of his appearance and renown. That day as a member of the honor guard, I stood directly in front of Mark Twain while he made a speech on the steps at the State House and attended the reception for him.

Our graduation ceremonies in June 1908 were held in the Armory. We impatiently waited for the Secretary of the Navy to finish his speech so we could throw our caps into the air with a cheer to mark our release from limbo.

Mother came East for my graduation. I danced with her at the graduation ball and with the daughter of the secretary, Miss McAdoo, whom I had been chosen to escort for the evening. The gayly decorated arena of the high-arched Armory presented a colorful scene of brilliant uniforms and beautiful women, weaving kaleidoscopic patterns to the strains of the "Blue Danube," and bandmaster Zimmerman's "Anchors Aweigh."

Mother and I remained overnight at the Moss residence. When she left for home the next morning, I suddenly realized I was now on my own. I felt somewhat like a colt on finding the corral gate open, was not sure he wanted the wide-open spaces. The cloistered years in the Academy where all decisions had been made for me, served to replace self-reliance with the image of an ever-present authority. I was not sure I liked it. However, for the present, I felt an immense sense of relief from something, I was not sure what.

Chapter 3

The Navy

1908–1911

On my way home for graduation leave, I stopped in Washington to see what I could do about getting into Naval Aviation. I was shunted from office to office for most of the day and was finally told I was needed on the Navy Rifle Team at the National Matches.

My first assignment, after the matches, was to escort several hundred recruits to Panama for distribution in the Pacific Fleet. The voyage down on the transport *Prairie* was uneventful, largely due to the rough passage and a heavy fisted Master-at-Arms.

My status as a supercargo gave me the opportunity to observe the relationship of captain to executive, executive to the officers, and officers to whoever might be handy. Individuals in the ship's company had his well-known function, up and down the ladder of authority. I began to think I would like a naval career.

The sun had not yet dispelled the fragments of mist drifting over the Chagres River when we anchored in Limon Bay, off the Port of Colon, Panama. As I leaned on the rail outside of my stateroom, I recalled that the Welsh buccaneer, Henry Morgan, had come to this same anchorage on a similar morning in 1670 to plunder the Castle Chagres at the entrance to the river. He had seen the same silhouette of the Cordillera de San Blas on the Eastern horizon; had inhaled the fragrant, humid, air; and had heard the same cries of the jungle creatures.

Later in the morning, we moved into the Colon docks to load our subdued company onto the railroad for the trip across the Isthmus to Panama. The journey interested me as much as it did my charges. This was my first contact with the tropics; the native population and their huts among the banana trees fascinated me; the abandoned jungle-covered machinery left by the French; the vast excavations being chewed out of the mountainsides by our engineers; and finally, Panama—noisy and smelly under the hot, noonday, sun.

I turned my recruits over to the fleet representative in Panama and parted with my Master-at-Arms with regret. For a big, burly, redneck Irishman, he seemed out of character in his pleasant, respectful, contact with me.

With my convoy assignment completed, I reported aboard the USS *Albany* at anchor in Panama Bay. I was happy to find two classmates aboard, Owen and Brown, to keep me company at the bottom of the *Albany* totem pole.

The *Albany* had a complement of a dozen officers and two hundred men. As far as I could determine, her function was to police the Pacific Coast between Panama and the Gulf of Fonseca to prevent such characters as Walker, Moisant, Lentz, and other freebooters, from upsetting the status quo of that unstable area. Apparently, our immediate objective was to keep Zalaya in power as President of Nicaragua—the United States had an interest in another route across the Isthmus. A company of Marines was aboard for the benefit of any other Central American government that might need assistance from Uncle Sam in one way or another. Marine Captain Hill had Waller and Capron for his lieutenants—they were compatible members of the mess.

After graduation, midshipmen went to school aboard ship for two years as passed midshipmen before they were commissioned as ensigns—an archaic inheritance from the British Navy. In the old British Navy, midshipmen were stationed amidship to pass orders, act as powder monkeys, run errands for the officers, and be a general nuisance—in the opinion of all hands.

The *Albany* was a happy ship, our anchorage in Panama Bay offered excellent fishing for recreation. Shore leave for the crew sometimes posed problems for Chief of Police Shanklin when arguments arose between our sailors and the rough and tough dredgermen.

Late in the summer of 1908, the *Albany* returned to her homeport of San Francisco. Miss Hazel Dow, trim, one hundred and ten pounds with natural honey blonde, came aboard on Visitor's Day with one of the officers' wives. At once, I was attracted by her quick and intelligent nature. We became good friends at her Aunt Bell's home during our brief stay.

We returned to our Panama station after refitting and resumed patrols along the Central American coast. At the Port of Corinto, Nicaragua, the narrow entrance to the landlocked Bay of Corinto reminded me of Homer's tale, wherein luckless sailors were enticed from their vessels by Scylla on one side or drowned in Charybdis' pool on the other. The rocky headlands at the entrance, with a small island between, duplicated the Homer fantasy.

No sign of habitation was apparent as we entered the Bay at dead slow speed until a dilapidated dock showed at the edge of the jungle.

A broad street, bordered with a scattering of native huts and a few whitewashed buildings, led from the dock into the forest. The inhabitants, if any, were nowhere to be seen.

As we slipped quietly along to the anchorage, I was keenly aware of the natural, ethereal, beauty of the scene. The distant Tigre Mountains, shimmering in the hot, opalescent haze over the coastal plain, seemed to float between the towering thunder heads and the placid surface of the Bay. The water was barely ruffled here and there by vagrant airs laden with the earthy fragrance of tropical vegetation. A sharp order, the rattle of anchor chain, and the spell was broken to remind me of my duties in securing the ship.

When all hands were piped down, Ensign Austin and I put the canoe overboard to paddle across the Bay to a native village where we might get fresh fruit and vegetables for the mess. All went well until we were opposite the entrance to the Bay. The pleasant break in our steel-bound routine, together with the exhilaration of exercise, obscured any thought of the potential danger present in ebbing tide, setting sun, and a storm making up to seaward.

The groundswell, coming through the channel from the ocean, disturbed the rhythm of paddling and we capsized. Too late, we discovered the bailer was not under the seat where it belonged.

The great volume of water rushing out to sea made it obvious we would have to swim the three hundred yards to the headland or be carried out where sharks lurked at the entrance to the Bay. Larry was an excellent swimmer. I had never been able to do better than dog fashion. By the time we had gone fifty yards, I knew I could not make it. As our only hope for rescue, I urged Larry to continue while I returned to the swamped canoe.

The ebbing tide rapidly carried me out into the open sea. A distant booming of surf along the coast accentuated the oppressive quiet of my situation. I had to fight off panic when I realized I was about to be the victim of another Charybdis. Defiantly, I jammed my white shorts under the brass strip at the bow for a signal to possible rescuers then slid back to the other end where I submerged to the shoulders—perhaps that would fool the sharks.

The coastline became less and less distinct in the rapidly fading light. The rumble of the approaching squall became more and more ominous. I was cold and lonely in a vast watery wilderness, part and parcel of the sea.

The squall broke over me in a great rush of wind, crashing thunder, and a deluge of warm, sweet water. The calm sea broke up into an ever-increasing turmoil of mounting waves, deep valleys, and hissing, windblown blasts of saltwater. Lightning froze the scene in a still-life panorama, followed by utter darkness.

One more gesture for survival could be made: I tied an arm to the seat stretcher behind me in such fashion, my head could not become submerged—in that position, the night wore on. Confusion and chill dulled my senses. I thought of many things: I wondered if Larry had been dashed on the rocks; whether Miss Dow would be grieved; perhaps, I would drift endlessly in the Humboldt Current or be consumed by sea creatures. Reality blended into delusions until a calm narcosis enveloped me, and I dozed.

Larry, though considerably battered, reached the cape and raced the mile or so to the village where he presented the spectacle of a white man demanding to be taken out to visit the warship! The natives were finally convinced something was wrong and took him out to the *Albany*.

Aboard the *Albany*, a search party was organized and dispatched to the area where the native said the returning tide would be most likely to bring the canoe. When the launch reached the predicted area, my flag of all nations was picked up in the beam of their searchlight. After I had been wrung out and dried for several days, I realized I could have missed something worthwhile in life. I dispatched a letter to Miss Dow, together with a heavy ring, I had almost lost from my shrunken finger.

When the *Albany* returned to San Francisco, I found the story of our adventure on the front pages of the newspapers and a tear-stained letter from Miss Dow. That did it! We became engaged when I visited her family in San Jose. I became acquainted with her parents, grandparents, brothers, sisters, and cousins. I enjoyed Mr. Dow's accounts of early days in California and his constant battle with the Southern Pacific Railroad monopoly while an assemblyman in the Legislature of 1891. He was associated with the Food Machinery Corporation of which her cousin, John Crummey, became chairman of the board in later years.

I was transferred to the USS *California* at the end of the cruise in the *Albany*. The *California* was one of the eight armored cruisers in the Pacific Fleet, ready to leave for a cruise to the Orient. Before leaving, I called on the Dows and was cordially received by all except Mr. Dow: he was suspicious of all sailors; his doubts were confirmed when the Navy Department replied to his inquiries with the information there was no Knerr in the Navy! I had a little difficulty in clearing that up.

Aboard the *California* I found the informality of the *Albany* replaced with pomp and circumstance; the admiral had his own solitary mess; the captain had his; the senior officers had a wardroom mess, and the junior officers had theirs.

Admiral Sebree controlled the fleet from his private bridge aft on the Flagship *California*; the division officers directed the turrets and broadside batteries; the warrant and petty officers carried out the orders of superiors, and everyone was reasonably happy—thus, the chain of command was neatly arranged and insulated from familiarity; I was lost somewhere at the bottom—a willing helper or convenient scapegoat.

While in port, my duties as a junior watch officer included gunnery, seamanship, navigation, steam engineering, and the fine art of scrubbing decks in the early morning watch without thumping the deck over the skipper's stateroom. On the bridge at sea, I observed the position of the ship next in the column ahead with a stadimeter—an instrument that measured the distance between the ships. If the space between ships was not within prescribed limits, a signal was run up to the yardarm which called attention to that fact, and an entry was made in the log. If the admiral read the log, which he frequently did, some luckless skipper got his ears boxed. Otherwise, the buck passed to the executive, who in turn, bawled out the watch officer . . . who, then gave the midshipman of the watch what for . . . and there, the matter rested. This wonderful system tended to keep all hands on their toes and apprehensive of what might happen next.

The landfall at the Hawaiian Islands in an early morning watch presented an ethereal scene: the sharp edge of the horizon; fluffy white clouds; balmy air; the smooth sea, and pulsing ship, created a sense of fantasy that kept the watch on the bridge silent, while we drew toward the distant blue landmass that slowly resolved into gray-green mountains and dark valleys, adorned here and there with a veil of waterfall.

A delightful week in Honolulu included a reception by ex-Queen Liliuokalani at the old Palace; a ride in a surf canoe; a luau on the beach at Waikiki; a hundred-mile bicycle trip around Oahu for required exercise. The fragrance of the flowers and the friendly attitude of the natives, when Honolulu was still a village, will be remembered for a long time.

Neptune, with his Court, came aboard through the hawse pipe at the bow when we crossed the Equator on the way to the Solomon Islands. Anyone who did not have a certificate of a previous crossing had to appear before him and be punished according to maritime transgressions.

Neptune's Court was made up of the ship's crew, dressed in costumes representing *Denizens of the Deep*: fish, crabs, porpoise, octopus—even mermaids. On such occasions, the seamen could go as far as they liked in tormenting the officers within reason. Their shenanigans included such indignities as: a shave with a meat cleaver and engine oil; a shampoo with vinegar; dunked blindfolded into a tank of seawater where Neptune's pollywogs nipped and pinched, and where mermaids welcomed each with sanded hands. I was not dunked but fined a case of beer for allegedly flirting with a mermaid during a midwatch on the way down from Honolulu.

Our mission in the Admiralty and Solomon Islands area, north of Australia, was to survey likely locations where coal could be dumped for underwater storage. The work of setting up the triangulation stations was carried on by the junior officers. I was detailed to a survey party the day after we arrived, along with Ensign "Dolly" Winsor, Midshipman Bowman, Dr. Parker, and six seamen to man the whaleboat. The executive officer, "Duke" McCully, pointed out the spot for the first signal with the admonition to be back before eight bells in the afternoon—or else.

While erecting the signal, we were startled by a voice behind us. There, standing at the edge of the jungle was a fearsome looking native, black, with bushy hair and bright red lips, holding a long obsidian-tipped spear. We had been warned these islanders were cannibals, and this one looked hungry.

When we ran to the boat for our guns, the native dropped his spear and indicated he wanted to trade. We were fascinated by his wide-mouthed friendliness, seashell necklaces, scanty costume of coconut fibre, and his pidgin English speech. Among other things, he told us to stay away from the big island a few miles to the south because the people there liked long pig. We gave him a can of tobacco, the contents of which he promptly stuffed in his mouth then gave us his spear.

When we had finished our work, Dr. Parker, who had come along for the ride, suggested we row over to the big island for a glimpse of the “long pig” eaters. No sign of humanity was apparent as we approached the island. Closer in, a muddy area near the beach revealed the presence of a wide stream leading back into the overhanging jungle. While we rested on our oars, we were torn between curiosity and recollection of the “Duke’s” order. The “Duke” lost, and we moved on into the mysterious river. We passed over the shallow bar at the entrance and followed the stream to a sharp bend. We had to see beyond that bend . . . and another . . . and another, until the spell of the jungle with its chattering monkeys, noisy parrots, and musty fragrance had led us far inland.

No evidence of native life was seen until we spotted a canoe drawn up on the riverbank with a bunch of red bananas in the bow. A small boy, devoid of clothing, stepped out of the brush, and made signs. He wanted to trade the bananas for anything we might have to offer. We turned the boat around and cautiously pushed the bow up to the boy. Our suspicions were aroused when the boy attempted to retrieve the bananas after we gave him a can of tobacco.

The native held on to the boat and when we pulled away, emitted a blood-curdling howl repeated far up the river. A vague throbbing sound, increasing in volume, seemed to come from nowhere and yet was everywhere—not unlike the drone from a disturbed bee’s nest.

Our hasty retreat down the river was hampered by overhanging brush along the riverbank; beyond, we could see natives running to the beach to head us off. Dr. Parker responded to a few missiles thrown into the boat with a blast from his .410-caliber shotgun, while I fired a few rounds into the air with my Navy .38-caliber pistol.

The display of bravado bolstered our courage until, from around the last bend in the river, a large canoe appeared in pursuit with a dozen men furiously digging their paddles in the water to the beat of a weird chant. The men were tall and lean. Their lips were stained fiery red from chewing betel nut leaves. A mass of reddish, brown hair, restrained with a broad, white band across the forehead, added to their fearsome appearance. There was no mistaking their intent. Then I knew how the fox feels with hounds snapping at his heels.

We passed over the bar at the entrance to the river far enough ahead of our pursuers to give them a Bronx cheer when their canoes were swamped in the overfall at the bar. Their cries of rage brought a swarm of natives out of the jungle onto the beach. We could imagine what would have been our fate if we had not escaped—we were told later a Japanese trader had been cannibalized there recently.

A sober boatload of truants rowed back to the ship late in the evening. The "Duke" was waiting for us at the gangway, tugging at his Vandyke in resentment over our failure to return as ordered. Aside from getting a dressing down, we came off without serious consequences.

Discipline aboard ship, where so many must be controlled by so few, no doubt requires austere methods which tend to inhibit such escapades as ours among older officers. Perhaps, that is the difference between 22 and 42.

We visited many uninhabited atolls during our survey. Lagoons within the encircling strand, rich in pastel colors, aroused visions of a paradise unspoiled by predatory man; the birds were unafraid, and fish invited capture.

Our next port of call was Yokohama, Japan. We made landfall early in a morning watch, just as the suntinted, Mount Fuji's snow-capped cone peeked above the blue haze of the far horizon. Our measured approach gave me the sensation the ship was standing still, and the land was drifting toward us. Our arrival in the anchorage created great activity among a horde of bumboatmen intent on exchanging their wares for Yankee dollars. We were free to go ashore after the official calls had been made by the admiral and the captain, and then returned by diminutive Japanese officials wearing immense swords.

At the dock, we were greeted by strangely dressed citizens, politely curious, talking in a staccato manner. No doubt, we looked more foreign to them than they did to us. One stepped forward, bowing, and hissing, and said he would be pleased to be our guide.

The guide led us to an ancient automobile, suggested he drive us up to Tokyo as the best way to see "much in a short time." We saw much all right—mostly a human flood in the long street between Yokohama and Tokyo. The driver never slackened speed but simply bore down on the horn. When we asked him if he was ever arrested for hitting anyone, he said: "Law say, in way, not jump fast enough."

We stopped at one of the small shops on the way to Tokyo. The proprietor welcomed us with deep bows and sibilations. His shop was crowded with all kinds of furniture, silks, vases, lanterns, flowers, cutlery, swords, and so forth. The air was heavy with incense that failed to subdue the smell of fish emanating through the bamboo curtain across the back of the shop.

The guide took us to a Shinto Shrine beside a small lake. Neatly tailored shrubs and stunted trees lined the walks and lawns where many women tended their children, on some sort of holiday, all dressed alike in colorful kimonos. The features of the women were very attractive-from the nose up—heavy cheeks and undershot jaw detracted somewhat from their dolllike appearance.

We returned to the fleet landing late in the evening, just after sunset. The lights along the bund and of the ships anchored in the glassy afterglow across the water, the boats scurrying about the bay, and the clickity-clack of rickshaws dropping sailors at the dock, created an exotic scene, strange and bewildering to our western eyes and ears.

The "Duke" showed up while we were waiting for the shoreboat and invited us to come along in his gig. His pleasant conversation and interest in what we had seen revised our opinion of him.

Our next objective was Shanghai, China. From Yokohama, we sailed east along the south coast of Japan. Garden-like hamlets on the hillsides, so close at hand, presented a peaceful backdrop for the long line of warships. The deep, blue water we had been accustomed, changed to yellow because of the great quantities of silt washed down from the denuded Chinese interior-hence, "The Yellow Sea."

Shanghai was even more interesting than Yokohama. The pigtailed Chinamen, sing-song language, rickshaws, and exotic shops along the Bund, were of absorbing interest. I had heard that the Chinese tailors could make a suit for you while you waited. I decided to find out since I needed one badly.

Sure enough, a fat, smiling, tailor assured me he could make one like the one I wore in a short time for $20.00. With little to lose, I let him take my measurements with his promise that I could pick it up the next day. When I called the next day, the tailor and his helper were standing in the doorway of his shop with the suit ready to go, an exact copy, even to the button missing from one sleeve.

Before I left China, I wanted to see the "Bubbling Well Road." My faith in Kipling was shattered when I found the "Road" to be a dusty country lane.

From Shanghai, we steamed south to the Philippines. The fleet presented a thrilling sight to the natives as we entered Manila Bay. We felt we really were welcome when we saw the many United States flags displayed ashore.

We were frequently welcomed with "Bienvenido Amigo" ashore. After a few days, we moved around to the Olongapo Naval Station to coal, have the bottom cleaned, and the ship painted preparatory to the long voyage home.

On the run to Honolulu, we ran into a lot of bad weather. Heavy seas and cold spray made the night watches on the bridge most uncomfortable. The front of the bridge was enclosed but the wings had only a waist-high weather cloth. The searching fingers of a gale always seemed able to find a small gap in my slickers through which to introduce trickles of cold water.

I was happy to leave the deck watches for a tour of duty in the engine room. It was nice and warm down there. As assistant to Warrant Officer Johnson, I soon learned the meaning of the many gauges and the precise way to respond to commands from the bridge for revolutions from the ponderous compound engines.

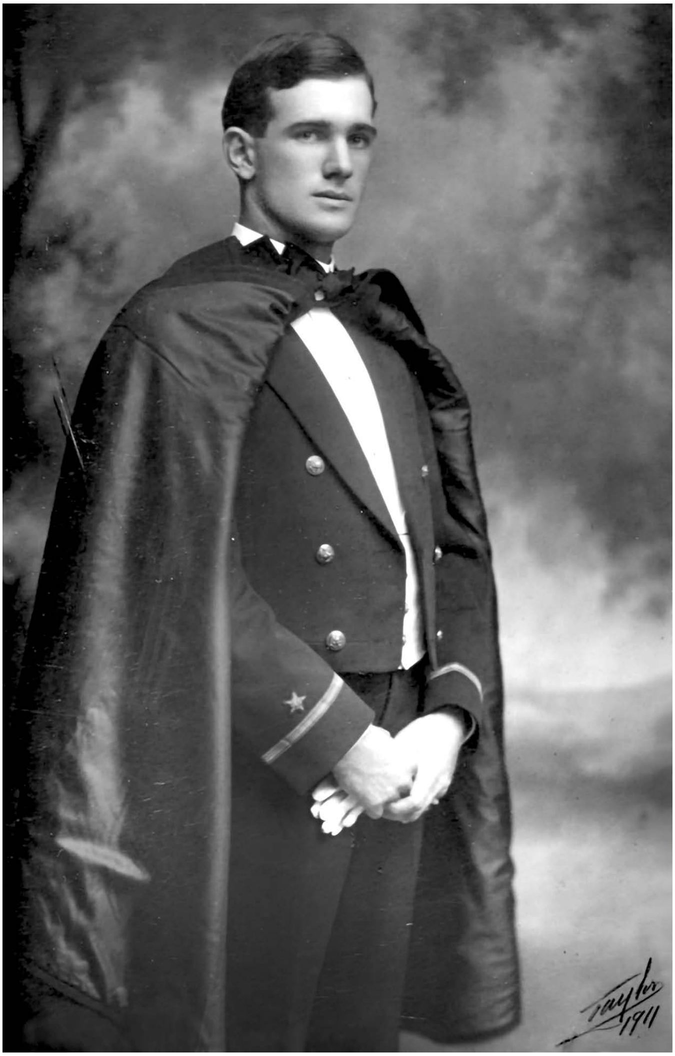
The *Maryland* broke down before we had reached Honolulu. When we undertook to tow her, the heavy steel cable pulled the bits loose on our stern. A turn was taken around the after turret, but when the strain was taken on the cable, it snapped and came whistling back at us. Many hours were consumed to get us hooked up again.

Progress toward Honolulu was exasperatingly slow. I had plenty of time during the long night watches to consider the desirability of a naval career. Recollection of the pristine South Sea Islands contrasted vividly with my situation in a cold mass of steel. Perhaps, I had too much of the clay of Kansas still in me to mix well with the glamour of the Navy—I had my doubts.

Diamond Head finally appeared on the horizon. We proceeded on to San Francisco after coaling in Pearl Harbor. I lost no time getting in touch with Miss Dow and her relatives in San Jose. Our plans for an early marriage, however, were postponed indefinitely when I was ordered to the destroyer, *Truxtun,* about to leave for Magdalena Bay for target practice. I was informed this was a temporary detail pending my assignment to the Navy Rifle team.

Events in the summer of 1910 followed in rapid order—the *Truxtun* left immediately for target practice at Magdelena Bay on the lower California Peninsula. On the 6th of May, I was ordered to the Naval Academy for duty on the Navy Rifle Team of 1910 and the National competitions at Camp Perry. On the 6th of June, the great day arrived when I shed the half stripe of a Passed Midshipman for the full stripe of Ensign.

After the National Matches, I was assigned to the destroyer *Flusser* at the Portsmouth, Virginia, Navy Yard. Before joining the *Flusser*, I applied for leave to get married. I was informed the *Flusser* was due to leave on an extended cruise in the Caribbean—but I could have a few days leave before reporting. A few days leave was not enough for me to get out to the West Coast. I sent a telegram to Hazel, suggesting she come east and join me at my parent's home in Kansas City, where we could be married on their twenty-third anniversary; that idea took some doing on her part and we were married at home on the 2nd of September 1910.



Ensign Hugh J. Knerr, US Navy, 1911. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Hazel became a great favorite of my mother. Father, too, was captivated by her bright and happy disposition. Barclay, then ten years old, was not too pleased with the competition for his mother's affection.

On the 24th of September, duty called, and we hurried east to the Portsmouth, Virginia, Navy Yard, home port of the *Flusser*. We searched the grubby streets of Portsmouth for a suitable place to live. I wondered how Hazel, nervously clinging to my arm, would react to this way of life. We finally found a pleasant boarding house with rooms overlooking Hampton Roads. The owner, Mrs. Moore, and daughter Patti, welcomed Hazel with open arms. The reception she received one evening in the kitchen, when she dropped in for a bite to eat, was not pleasant: the cake she had in mind was all but carried away by a swarm of roaches as she approached—such is Navy life! I also found life had many surprises for me in the ensuing weeks.

Hazel, Patterson Field, Dayton, Ohio, 1923. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The *Flusser* had not completed her fitting out when I reported aboard, which gave me time to become adjusted at the boarding house and on the *Flusser*. There were five officers aboard. I was designated as the engineer. Our flotilla of five destroyers was equipped with the new turbine engines. My assistant, Warrant Officer Lutrel, was a typical Scotch Marine engineer—short of speech and wise to the ways of turbine power. I anticipated my duties with enthusiasm.

Life aboard the *Flusser* was cramped. The narrow confines of this type of vessel limits one to bare necessities. Fortunately, we were a compatible group. The skipper was a fine gentleman, and his wife was helpful with Hazel, while I was at sea.

Hazel distinguished herself one day before the *Flusser* left port. I had told her I would send a boat across to Norfolk to pick her up when she had finished her errands. At the dock, she saw a big launch with snowy white awnings and polished brass just as it was pulling away. In response to her "wait for me," the launch backed up and two sailors in smart uniforms helped her down into the cockpit. To her surprise, several officers in much gold braid were seated there with a group of ladies. Hazel remarked, somewhat stiffly, "I am sure this boat was sent for me." At that, the officer with the most gold braid got up to assist her saying: "My dear, you are most welcome. Let me introduce my wife and the other ladies. I am Admiral Evans" (Adm Robley Evans, commander-in-chief, Atlantic Fleet).

When Hazel told me about the incident, she said she considered making a jump for the dock, but it was too late. I sent her home to Kansas City for safekeeping while I was on the Caribbean cruise.

Many find the sea a welcomed refuge from the responsibilities and annoyances of life ashore. Some find a challenging monster, eager to destroy them with wind and water if they are not superior to it with mind or muscle. Others see the sea as a vast arena whose far horizons beckon them with dreams that never are quite fulfilled. At times, some can forget the ever-present noise and garish environment of a Navy Base and nourish recollections of pleasant moments ashore. I wondered whether I could fit into any of these spots.

Our fleet left Portsmouth on a cold, blustery, day. The violent pitch and jerk of the *Flusser* as we passed through the Virginia Capes into the rough Atlantic was quite different from the easy, lumbering roll, and ascend of the *California*. I had to hang onto the lifeline when I made my way along the slippery steel deck to the firerooms where hot coffee was always available to ward off the soporific effect of the softly whirring turbines.

The cruise to the Caribbean was to test the new engines and show the flag. We touched at the chain of Islands from Trinidad to Puerto Rico. The asphalt lake near the Port of Spain, where the volcanic source maintains a constant level, no matter how much material is dug out, was most interesting.

The island of Martinique still bore the scars from the volcanic eruption that obliterated the population nine years before. Saint Pierre, the Paris of the Caribbean, was a mass of rubble. The rusting hulk of a ship lay careened on the beach, a mute testimony to the power of gaseous blast that had destroyed her crew.

The small, enclosed harbor of St. George was the most attractive port we visited: the dense green jungle on the mountainside back of the city; fragrant flowering shrubs overhanging the garden walls; beautiful birds; soft-spoken people all combined to make this a lovely spot.

San Juan, Puerto Rico, was our last port of call. Massive Spanish fortifications overlooking the harbor aroused visions of galleons assembled there before venturing the hazards of Windward Passage.

Our stay in San Juan was cut short by warnings of a hurricane approaching from the southeast. The storm overtook us before we could reach Key West. There were times when following seas broke over the stern and threatened to swamp the engine-room where the engineer warrant officer struggled to keep the twisting hull from stripping the turbine blades.

From Key West, we returned to our home port at Norfolk, where Hazel was already established at the Moores' home, and orders to the Navy Rifle Team for the 1911 matches at Camp Perry awaited me.

Accommodations for married couples at Camp Perry were very limited. We found room and board at a nearby farm where we enjoyed excellent meals with the farmhands. Facilities for bathing consisted of Lake Erie—a half-mile away—or the hose back of the barn. The excitement of competition among teams from the Army, Navy, Marine Corps, National Guard, and individual marksmen from all parts of the country, made our summer adventure pass all too quickly.

My next assignment after the matches called for duty aboard the destroyer *Lamson* at the Norfolk Navy Yard. The captain of the *Lamson* had a reputation for polishing his image with superiors at the expense of subordinates—to live by the book would be my refuge.

Shortly after joining the vessel, while I was Officer of the Deck, I apprehended two men coming aboard with bottles of whiskey in their pockets. Next morning, a letter from the captain placed me under arrest for neglect of duty by allowing liquor to be smuggled aboard! Such a fantastic charge bewildered me.

Surely, there was some mistake? But no! The captain refused to see me or discuss the matter with the executive. Many hours of deep mortification only served to keep me awake. The blot on my record could never be erased, no matter how illogical.

Something had to be done about the liquor incident or resign myself to a life as restrictive as the grooves in a phonograph record. Many examples of resignation to an unwanted career, through lack of courage to give up economic security, had come to my notice. Now, was the time for decision.

My indebtedness to the government for my education was a matter of real concern to me. The only place where unbiased advice could be had was at the Office of the Judge Advocate in the Navy Department. When my restriction to the ship was lifted, I caught the night boat to Washington where I discussed my problem with an understanding judge advocate who told me a grave act of insubordination had been committed by coming up to Washington without permission. He said the captain would surely prefer charges against me when he heard about it. Now, the horns of a dilemma took on real meaning.

A long walk in the park near the Army, Navy, State Building, served to sort out the options open to me. I decided to resign from the Navy and offer my services to the Army where I would have a chance to get into aviation—an ambition denied to me in the Navy.

At the War Department, I learned the Signal Corps was charged with the development of Aviation in the Army, and that officers were to be detailed to it for pilot training; in the meanwhile, a commission in the Coast Artillery—where my gunnery experience would be useful could be had for the asking.

At the Navy Department, I submitted my resignation and received a blistering lecture on loyalty—to just who or what, was not clear. The United States had my primary loyalty. The captain was absent on my return to the *Lamson*. The executive said he had gone to Washington—if, about me, he got there too late; my detachment orders arrived before he returned. My resignation was dated 23 October 1911, and my Army Commission 28 September 1911. I had a commission for a short time in both the Army and the Navy.

I left the Navy without regret, satisfied my decision had been correct. The realization that the Navy did not offer the freedom of thought my natural instincts required had been developing for some time. Now, we would see if the Army were more tolerant. Hazel was overjoyed. Happy days were here again!

Chapter 4

Coast Artillery

1911–1917

Fort Monroe was our first station in the Army. This picturesque fort is located near Hampton, Virginia, on the shore of Hampton Roads where the *Monitor* and *Merrimac* held their indecisive duel during the Civil War.

The fort is a huge structure with twenty-foot-thick brick walls, enclosing several acres of open space; barracks and offices are against the wall on one side of the oak-shaded parade; officers' quarters occupy the opposite side and ends; and the former magazines are now the library, officers' club, and non-commissioned officers' quarters. We were assigned quarters in a large apartment building near the club. We found two classmates, Harold Burdick and Walter Smith, already established there—they too, had found the Navy frustrating. Harold's wife, Mildred, was a small, shy, New England type, given to occasional satirical comment. Smith had married one of twins (polygamy!)—tall, dark, and angular. When Walter was asked how he could tell them apart, his dead-pan reply was: "I can't." Walter was a quiet, pleasant, individual, ready with detailed comment on any subject—because of which, he was affectionately known as "Windy." We had been teammates on the Navy Rifle Teams.

The day after we arrived at Fort Monroe, I dressed in my new Army uniform, joined the crowd under the ancient oaks to watch the afternoon parade. The ceremony was colorful, with marching troops, sharp commands, martial music, and the bugle call of "Retreat" when the flag was lowered. I thought I looked really natty in my red-striped trousers, stiff campaign hat, and low-cut shoes, until Capt Baker touched me on the shoulder and quietly assured me my uniform was interesting, but not approved of in the Army. He did not scold or ridicule my ignorance. Ever after, I was a stickler for proper uniform.

By the spring of 1912, our Navy squad had been converted into a group of snappy Army officers. General Strong was so impressed—for one reason or another—he had us sent out to Puget Sound, where his friend, John Hayden, was in command of Fort Casey.

We thoroughly enjoyed the few months at Fort Monroe. We attended regular classes at the Coast Artillery School where we were indoctrinated with the customs and expertise of heavy artillerymen. In addition, the diversion available at the Chamberlain Hotel pleased the wives and gave us the chance to rib our Navy friends.

That evening before we left Fort Monroe, we gathered in the Officers' Club for an excellent dinner served by old, wool-topped, Jonas. The waves, lapping the beach beyond the moat, blended faintly with a concert at the nearby Chamberlain Hotel. During the dinner, we heard an elderly colonel suggest to his wife, as they passed by our window: "Honey, let's walk up the ramp to see the harbor lights." Apparently, the colonel's wife stumbled, and we heard the colonel say: "Look out, sweetheart, you'll break your goddamn neck." Judging by the lack of response, we surmised his comment was a customary term of endearment—lacking in other forms, it had the quality of Army comradery.

We left for the West Coast the next day in a flurry of excitement. The happy trip across the Continent in May of 1912 was a wonderful experience. The plains and snow-clad mountains were such a change from wind and water, I fully appreciated their solid beauty.

There had been times in the Navy when I thought of the hills of home and longed for the privilege of rolling in the lush grass of our cow pasture—thistles and other hazards notwithstanding.

At the station in Seattle, we were met by dapper Lieutenant Archibald Campbell, detailed to escort us to the docks, where a tug waited to take us to Fort Casey near the entrance to Puget Sound. We settled ourselves on the fantail aboard the tug, while the lieutenant told us that Fort Casey was one of the three forts for the defense of Seattle and the Bremerton Navy Yard. Headquarters of the Coast Defenses was at Fort Worden, where the lieutenant said, Mrs. Bailey was in command which he quickly corrected to Colonel Bailey. Our fort was on Whidbey Island, six miles by mule and buckboard from Coupeville. All things he said were toward a happy community, bound together by isolation and the firm, though kindly, discipline of the Post Commander.

The forty-mile trip up Puget Sound was a delightful excursion. A blanket of blue haze veiled the rugged Olympic Mountains on one hand, and the heavily forested hills on the other. Burning pine slashings of the woodsmen's fires scented the cool breeze while a flock of gulls floating above us in the crisp air seemed to join in the conversation. It seemed as they discussed among themselves the possibility the monster below might discharge its usual contribution. The wonder of the scene filled me with gratitude to the unknown sailors who had tried to smuggle liquor aboard the *Lamson*.

At the Fort Casey dock, we were hailed cheerily by Major and Mrs. Hayden. Hazel, although not easily flustered, clung to my arm as if reluctant to climb the steep gangway to the impressive group above. This may have confused me, for when I saluted the major, I said: “Hazel Knerr and Lieutenant reporting for duty, Sir.” I was so flustered in my turn, I did not know what to say. I became even more flustered by the uproarious laughter of big bluff, Major Hayden while ample Mrs. Hayden, shaking with repressed mirth, enveloped Hazel in her arms. I was known as Hazel’s lieutenant for the next four years.

After our baggage was placed in an escort wagon—the same as those that had carried Custer’s outfit to their fatal appointment with Sitting Bull only thirty-five years before—we climbed into the “glass wagon” and were driven to our quarters.

As we passed along the ominous 12" mortar emplacements, soldiers engaged in their drill paused, wondering no doubt what they would have to endure from these green second lieutenants. When we skirted the edge of the parade ground, we saw the barracks along one side, the officers’ quarters on our right opposite freshwater Lake Bennet, and Puget Sound on our left. The surrounding landscape was pine forest.

The klipity-klop of the jacks slowed to a stop, and there at the top of half a dozen steps was our new home, a standard two-story Quartermaster duplex, elegantly decorated with the gingerbread scrolls of the gay nineties. Lieutenant Campbell gave us the keys and drove the Burdicks on to their quarters.

No one, more than us, could have felt like babes in the woods with nothing to cover them but leaves. That feeling was quickly dispelled when we entered the house and saw it was furnished with heavy issue mahogany and two steel cots. While exploring the interior, a sergeant showed up at the back door with an armful of bedding and a memorandum receipt on which he indicated, “sign here.” This was our introduction to that useful device whereby you could get the temporary use of anything from a horse to a hatchet.

A glance out the back door revealed a heavily wooded hillside across the alley with a profusion of rhododendron along the edge. A strange rumble in the forest elicited a hushed comment from Hazel: “What was that?”

So, there we were, all fitted out with bare essentials, but without anything to eat—and getting dark. That problem was solved quickly when a big Swede arrived with a huge platter of boiled potatoes, vegetables, and a piece of meat big enough to feed ten people—he was the company cook of the 149th Company, sent over by Captain Pitz. These, and many other kindnesses smoothed the way for us in this new, colorful, world. Mrs. Hayden took Hazel under her experienced wing, and with the help of neighbors converted our quarters into a comfortable home. I contributed some of my ideas to these efforts; among them, a mail-order pitcher pump to bring soft water into the kitchen from the cistern.

The pump became the cause for comment by one of the neighbors at a bridge table: "That Lieutenant Knerr must be nuts about his little wife. He has even installed a pump in the kitchen so she can wash her beautiful blonde hair in soft water." The commentator had blonde hair—dyed black at the roots? So, we knew there were crabapples in our Eden.

I was assigned to the 149th Coast Artillery Company with Capt Hugo Pitz, commanding officer. The captain was a short, positive individual, with black eyes that had a permanent glitter, even when he seldom laughed. He had the longest stride of anyone I ever knew. I liked him.

Sergeant Jenkins was the first sergeant of the 149th. I soon learned that first sergeants were the kingpins in Army outfits. Jenkins was an old-timer, big and competent; he had seen "shavetails" come and go without doing permanent harm. In those days, the enlisted men of the all-volunteer Army, other than professional soldiers, were either adventurers, misfits in civilian society, or unable otherwise to make a living. He controlled the hundred men in the company with a heavy fist or patient guidance. I respected the sergeant and he never forgot to end his comments with "Sir." I frequently asked his advice when in doubt.

The colorful evening parade seemed complicated to me. From the back of my platoon, I observed the ceremony with a mixture of pride and apprehension. Someday, I would have to stand out there in lonely dignity, complete in red-striped, blue, and flashing sabre, to start the march by the band and get the colors down to the stirring bugle call of retreat—all in proper sequence without hesitation. What if I should forget something, the whole business would stop and stare at me, Sergeant Jenkins had the answer. His post on the right of the center company was directly opposite the spot where I would stand as the parade adjutant. He devised a set of obscure signals he would make; a slight nod, bend of the knee, or other motion to indicate the proper command in case I hesitated. The wise old owl knew I would never need such prompting if I memorized the signals.

Field exercises were conducted across the sound from Fort Casey. Ten companies from the three forts were organized into a regiment under the command of Colonel Bailey, the commanding officer at Fort Worden. Gossip around the campfires indicated that only on such occasions did the colonel enjoy full command; such is the inevitable, where a small group lives together in an isolated community. Our situation, far out on Puget Sound, differed little from that of the garrisons in the early West, except for the lack of Indian uprisings—our Indians were peaceful salmon fishermen.

Certainly, 1913 was highlighted by the advent of young Hugh on the 30th of April. . . . The Burdicks and the Smiths each contributed a boy to the roster of the defenses at about the same time.

In July 1914, I learned an aviation section had been established in the Signal Corps. I was disappointed when informed that only unmarried lieutenants were being accepted for training.

Burdick and I followed up our military experience in the Olympics with personal visits to further explore that interesting region. The Forest Rangers, Hartseck and Whitehead, welcomed us to accompany them when they blazed new trails. On one trip, the rangers named a basin, Burdick Basin, and a small river, Knerr Krick. I doubt whether the U.S. Geological Survey accepted these notations.[1] We thoroughly enjoyed close association with the elk, deer, cougar, and marmot; all still curious enough to stand for their photograph before bounding away with a whistle or flirt of a tail. I sent a series of these pictures to the *National Geographic Magazine* and received a grateful acknowledgment from President Grosvenor.

Hazel and Mildred Burdick heard so much about the mountains, they insisted on being taken over for a first-hand experience. We packed up our yearlings and camp gear and hired a salmon fisherman at Brinnon on Hoods Canal to take us up the Dosewallips to near the headwaters of that river. There, we camped and led the life of pioneers on the abundant fish and small game of the area. When Hazel discovered bear tracks around the tent one morning, nothing would do but I should rig the hammock we had brought across the entrance to the tent. We obtained milk for the youngsters by walking down to a settler's farm in the valley—stalked, sometimes, by a curious cougar.

The routine of our self-contained community at Fort Casey never became monotonous. Something was always happening—pleasant, ridiculous, or tragic. One day, Shirley Wood, Burdick, and I were having target practice, shooting with our .45 caliber pistols at tin cans thrown into the air when Burdick turned around to eject an empty clip, he accidentally pulled the trigger. A shell remaining in the barrel fired and the bullet passed neatly between Wood's legs, tearing a hole in each leg of his breeches. Burdick nearly fainted. Wood, to ease the situation, laughed: "That reminds me of a story told about Abe Lincoln, when a fond mother persistently demanded to know where her son had been wounded. In desperation, Abe told her: 'Madame, if it had been you, the bullet would not have touched you.'"

Major and Mrs. Hayden, with sons Jim and Fritz, made us feel like members of their family. The major appointed me post adjutant, in addition to my company duties. Military discipline, with a filial sense of loyalty engendered complete harmony—so different from my Navy experience. Hazel, likewise, enjoyed her shopping trips to Coupeville through the pine and rhododendron forest, whether in a buckboard behind a pair of alert jacks, or with Mrs. Hayden in her carriage with the fringe around the top behind a pair of matched bays.

In December of 1915, we were transferred to Honolulu, Hawaii. Our ties at Fort Casey were not easily broken, but we longed for a change from the constant temperature of 54 degrees and the dull skies of Puget Sound. Hazel's sister, Daphne, joined us for the trip to attend the university in Honolulu.

When we rounded Diamond Head and tied up at the dock in Honolulu, a new world opened to Hazel and the kids, wriggling between our feet at the rail. The happy crowd of friends and relatives in tropical attire; the colorful native costumes; the welcoming music and exotic fragrance of the tropics; the loom of jungle-clad mountains against a background of towering white clouds, all of this proved an exciting experience.

Our new commanding officer, Col Wilmot Ellis, met us for the drive out to Fort Ruger along a broad avenue lined with tall, royal palm trees. When Hazel recovered from her wonderment, she broke the silence by asking, how in the world they managed to get those beautiful palms up on those concrete poles! The colonel, a big, dour individual, turned his head slowly and regarded Hazel to determine whether he was being kidded; when he realized she was serious, he smilingly explained.

At the fort, the colonel drove us around the parade ground past a row of handsome brick quarters, set back on broad lawns amid flowering shrubs. We were wondering which of these mansions would be ours as he stopped in front of a row of nipa shacks on the opposite side of the parade ground. These, the colonel explained, were the lieutenant's quarters and this one was ours. He assured us we would find it comfortable and drove on. He was no Colonel Hayden!

Strangely enough, we did find the place most attractive. It was well furnished with essentials, and surprisingly water-tight, but not bug-tight! Ants, flies, mosquitoes, scorpions, and a big green lizard welcomed us enthusiastically.

Between Hazel, Daphne, and the Robert Clarks next door, they soon had the shack more to our liking than any one of the big houses, with their attendant social activities. Here, visitors from the mainland would not descend on us for a protracted vacation.

Hazel and Daphne found much to do in addition to keeping bugs out of the shack, and young Hugh out of mischief. They both enjoyed an active social life. By the time the school term was over, Daphne, now a beautiful blonde like her sister, became engaged to a Lieutenant Edward Witsell, who was from an old Charleston, South Carolina, family. He graduated from The Citadel June 1911 and was commissioned in the Army on the 30th of November 1912.

We engaged a Korean for the cook. He was a good cook but tended to sulk when corrected which worried me when I was absent. Not long after we let him go, he murdered a lieutenant at Fort Shafter because the lieutenant did not like the way his boots were shined.

In 1916, Honolulu was little more than an overgrown native village with a polyglot population of Americans, Kanaka, Koreans, Chinese, and Japanese. Traffic at the intersection on Fort Street was controlled by a tall native with a "STOP" and "GO" sign on his helmet. There was no doubt the direction he faced, when he chose one with his long, outstretched, arms.

Plenty of diversion was available on the island of Oahu; evenings at Heinies on Waikiki Beach; watching the local beauty tempt the bachelors in the Fort Derussy pool; picnics at Judge Lightfoot's country place near Schofield Barracks; drives around the island through the great pineapple plantations; the Pali, where King Kamehameha had driven his enemies over the cliff; surfboating at Waikiki where, on one occasion "Duke" Kahanamoku cautioned Hazel to sit down because a shark had his eye on her—who didn't have?

In April 1917, two important events occurred: war was declared with Germany, and our second son was born at Fort Shafter. When we were slow selecting a name for him, Captain Pitz, on duty at Fort Kamehameha, called him Mike—a name that stuck instead of Barclay.

All was not beer and skittles for me at Fort Ruger. I found Colonel Ellis not the easiest person to get along with, I did the getting along. I never could get accustomed to his yelling for me from the next office as if I were a mile away.

Mrs. Ellis was a charming hostess. She never failed to include us at receptions for distinguished guests. We particularly enjoyed meeting Nellie, Melba, and Madam Schuman-Heinke.

The extinct volcano, Diamond Head, served as the control station for the Defenses of Oahu. The ranging instruments were mounted in slits cut through the crater lip. To get there, I accompanied the colonel through a tunnel and across the floor of the crater to an elevator. After a few minutes, to get his breath, the colonel would yell—he always yelled his orders into the communications system. Sometimes, when a salvo went wild, he would break into the artillery song: "The first one high, the second one low, now where in hell did that one go?"

A less arduous assignment was that of range observer on the tow target tug a mile or so offshore. Alone, on the gently heaving blue-green depths of the Pacific Ocean, with cloud-crowned Oahu in the distance, looking like a green monster rising from the sea, I recorded the overs and shorts at the target for the batteries at Forts Ruger, DeRussey, and Armstrong—at peace with a world in conflict.

Increasing military requirements included my promotion to first lieutenant; five years as a second lieutenant had been a long time. My pride was shattered a few days later when I came into my office and saw my assistant, Sergeant Field, sitting at my desk in a freshly starched captain's uniform, drunk! The Sergeant's Reserve Commission had been activated; he left for the mainland on the next transport.

A German light cruiser ran out of fuel during the summer, and with no place to hide, put into Honolulu for internment. The crew was distributed among the military establishments on Oahu, under the command of their own officers who had given their parole; they were a well-behaved lot and gave us no trouble.

Notes

1. U.S. Geological Survey, Knerr Creek and Burdick Creek are streams located in Jefferson County, Washington, near Mount Clark.

Chapter 5

The US Army Service

1917–1920

Someone in the War Department remembered I had inquired about aviation training at the time I left the Navy. On the 30th of July 1917, I received a telegram asking if I were still interested. I felt it would be selfish of me to ask for this hazardous duty when we could remain secure in Hawaii with our growing family. When I talked it over with Hazel, she offered the thought that she too had a duty in the service of our Country, and conscious of my long-deferred ambition, courageously urged me to accept the opportunity. Apparently, the War Department was not flooded with applications for this training; therefore, in September, I was promoted to captain and ordered to Rockwell Field, San Diego, California.

Hugh J. Knerr, Junior Military Aviator, US Army, 1917. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The voyage to the mainland was pleasant and uneventful, except for the discomfort I endured sleeping on the floor of our stateroom. Hazel and little Hugh occupied the upper bunk, while the schoolteacher who had wangled passage with us as a nurse for six-month old Barclay, occupied the lower—she spent more time with bachelors than with Barclay.

At San Francisco, we took a coastwise vessel to San Diego, where we stayed at the Grant Hotel until I could find a place to live in Coronado. I found a house on Orange Avenue that suited our purposes, although it was too big for us, we made good use of the extra space by inviting Hazel's mother to stay with us while I learned to fly. The environment was not like Hawaii but offered pleasant recreation at the Coronado hotel and on the beach.

When I reported for duty on North Island, I found little to match my visions of a military airdrome—just a few wooden hangars alongside the dusty field and some small airplanes, lined up in front of a crude operations office where men in flying gear were lounging on benches in the shade. As I approached, one of the groups hailed me to hurry inside and draw my equipment. Outside again with helmet, goggles, and leather coat, I joined the group as a member of a class of thirteen! That caused considerable comment by the instructors waiting for their students. I was assigned to Ira Biffle.

Biffle was a stubby fellow, made to appear more so by the bulky leather coat and heavy helmet hanging from his neck. His pale, blue eyes, somewhat hardened by the early years of flying, looked me over in a detached manner, as if tucking me away in his catalog of material he released to the Army for better or worse. With a brief "Howdy," he led me out to the flight line where his airplane, a JN-4, otherwise known as a "Jenny" was parked.

For me, this was a magic moment. I think I had a prescience of this at the turn of the century when I would climb onto the roof of our house at Atchison and gaze away beyond the Missouri—strangely disturbed. The last airplane I had seen close at hand had been in 1910 when with Aunt Ada and Hazel; we rode out to the Huffman Prairie, near Dayton, to see Orville Wright and his flying machine.

Biffle strapped me in the rear seat and cautioned me to keep my hands away from that stick between my legs. He was quite emphatic. Then he climbed into the front seat; a mechanic spun the propeller; the OX5 came to life with a roar; a bumpy run down the rabbit infested field; the ground began pulling steadily away from us—and we were flying! Thousands of hours of flight later never equaled the thrill of that moment.

Biffle turned me loose for my solo flight after ten hours of instruction. My takeoff was smooth enough, but I circled the field several times before I could gain the courage to attempt a landing. It was a rough one—I was sure it was back to the Coast Artillery for me. To my surprise, Biffle said I did very well. Said he was pleased to note, I did not try to steer around turns with the rudder but used it properly as a trimmer when I lowered a wing to make a turn.

I received my rating of junior military aviator on 15 December 1917, together with promotion to major. The few weeks waiting for orders were devoted to cross-country flying. Visitors could go along if they were willing to take the chance. On one occasion, I had Peter B. Kyne, author of the Cappy Ricks stories. On another occasion, I had a Congressman for passenger, so fat he could barely squeeze into the rear seat. I had difficulty gaining 200 feet altitude with my "Jenny" on that occasion.

Among the visitors who frequently joined us at lunch were Douglas Fairbanks, Mary Pickford, Roscoe Turner, with his lion "Gilmore," and many others of note. Members of our class had many pleasant evenings together at the Coronado Hotel. The music and the semitropical setting of the luxurious hotel on the beach served to release the tensions of a day's flying.

In January 1918, I received orders to Park Field, near Memphis, Tennessee. We were reluctant to move on since Hazel's mother did not wish to go so far away from her home in California. I would miss teasing her about her strict nonalcoholic stand and her liking for Father John's Medicine—she said it made her feel good. She also praised Hazel's mince pies, after I had slipped in a generous shot of rum.

In addition to my duties on the acrobatic and cross-country stages, I became Major Hoffman's assistant in the Engineer Department. Between us and the chief mechanic, we kept the OX5s in the JN-4s running despite leaky rocker boxes, and lack of piston wrist pins—we made pins out of old Ford axles when necessary.

We had many flying accidents during one ten-day period. The War Department sent an investigating inspector general to give Major Jerigan what-for. The inspector's solution for the situation was an order decreeing: "There will be no more accidents." That satisfied the publicists, and flying was resumed with the normal number of fatal accidents.

So many students became lost on their cross-country flights, I devised a gadget to help them maintain a predetermined course. To test the device, I had an extra gas tank built into the front seat of my airplane and projected a flight to Kansas City, St. Louis, and back to Memphis.

On the way to Kansas City, bad weather forced me down on a farm near Butler, Missouri. I was invited to spend the night there. After a delicious farm dinner with the hospitable parents and wide-eyed kids, I tumbled into a warm feather bed. At midnight, furious pounding on the door routed me out. A sheriff and posse, backed up by the farmer, and his family shivering in their night-shirts, stared me in the face when I opened the door. I was arrested as a spy!

The sheriff stated roughly: "An airplane with German markings has been reported flying over from Mexico to bomb Washington. You must be it." When I explained the situation, he reluctantly put the handcuffs back on his belt. As he was leaving, he said he would be back in the morning to take me before a judge.

I did not care to be held in a cold country jail in that February weather while they checked my story. I got up and out to the bar where the airplane was parked, turned it around, and took off for Kansas City. I wrote to the farmer later to thank him for their kindness and enclosed a photograph of my airplane for a souvenir.

At the county airport in Kansas City, I had a pleasant visit with family and friends while waiting to have the airplane refueled. From there, I laid a course for Belleville, near St. Louis, where I was greeted by Colonel John Pegelow, who was famous for his "paloons" on that lighter than air station. After the airplane was serviced, I took off for Park Field and arrived there shortly before dark. My gadget had kept me properly oriented throughout the flight.

In January 1918, I was ordered to Gerstner Field at Lake Charles, Louisiana. Hazel was glad to leave the stress and strain of Park Field. The kids could not have cared less. We remained there until June 1918 when I received orders returning me to Hawaii. Not long after we left, a tornado struck the Field and washed out ten of the twelve hangars and their contents.

My orders to Hawaii specified "'without family." That was a blow, added to the one sending me back to the Pacific, when many of my friends were going over to the war. In addition, I learned that a flock of schoolteachers had taken up all the space normally available for families. Fortunately, my Uncle Calvin and Aunt Bettie, in Oakland, came to the rescue and offered to take the family in until they could obtain passage. This later proved to be a six-week imposition they rationalized to be a war effort.

I reported in at the Hawaiian department headquarters. Here, I found the commanding general, General Heard, to be a crusty old codger; however, I was pleased to find my brother-in-law, Colonel Witsell, still there as the adjutant general. General Heard gave me to understand my predecessor had not produced results, and that he would take drastic action if I did not. He gave me no idea what he meant by results which left me free to do as I saw fit.

My orders assigned me to duty as air officer of the Hawaiian department, US Army; commanding officer of Ford Island in Pearl Harbor; and commanding officer of the 6th Aero Squadron. One barrack housed the enlisted men. There were no quarters for the officers, they were scattered around town in rented rooms or in huts they erected on the island from aircraft crates. Sugar cane still stood on what was to be an airstrip; morale was at low ebb—I saw what the general meant.

Consternation and hilarity were caused one morning when the squadron clerk posted a copy of an order I had dictated but had not yet signed. In no uncertain terms, I had called a spade a spade. The loafing and absenteeism stopped so suddenly, I let the copy remain.[1]

Ford Island had been a sugarcane plantation before the Army took it over for a seaplane base. The squadron aircraft included one HS-2 flying boat, several seaplanes, and a few JN-4 training planes on a small runway at Fort Kamehameha. I put everyone not otherwise engaged on clearing the cane and rocks off the island to qualify it for larger aircraft. Flying boats and training aircraft did not appeal to me as being suited to our mission.

After weeks of impatient waiting, I received word that the family was on the way over. I was relieved to see them at the rail when the *Ventura* docked—Felix Count von Luckner was at large in the Pacific with his raider, the "Sea Witch."

Hazel experienced a rough time coming over. She was given a small stateroom in the bowels of the ship as a camp-follower. Rough seas and intimate smells, incident to a small child, drove her roommate out and made Hazel wish the ship would sink. A burly fireman took pity on her and volunteered to wash and dry the laundry. He explained, he had kids of his own at home.

Little Hugh disappeared one day on the *Ventura*. Hazel was sure he had fallen overboard. When she was near collapse, Chaplain Palmer rushed up on deck with Hugh in his arms—he had fallen asleep in a coil of rope.

My tour of duty in the Hawaiian department was of absorbing interest. As department air officer, commanding officer of the 6th Aero Squadron, and command of the Ford Island Air Base, I had an unlimited opportunity to develop the Hawaiian Air Defense for its part in defense of the Pearl Harbor Naval Base.

I found much had to be done. The vacillating attitude of the Japanese did not seem to worry the authorities as a potential source of trouble. There was a general holiday spirit prevalent among the military as well as the civilian community. My urgent appeals for combat type aircraft were futile, so we made do with seaplanes and flying boats. Although we did a lot of flying, we suffered only two accidents—one fatal, and another when Lieutenant Prosser flew a seaplane into the dead, calm water of the Harbor. For my part, I made extended flights to all parts of the islands, including the first round-trip to the island of Hawaii.

At the time, General Heard made his threatened inspection at the end of six months, he had fire in his eye when he stepped on the dock built from the coral rock cleaned off the island. He poked into everything with his cane, humphed here, and grunted there, and finally smiled his approval—but I think he was disappointed not to find something to crab about.

Armistice Day, 11 November 1918—was a day of rejoicing and celebration in Honolulu. Our squadron contributed formation flights over the city, and I put on an acrobatic demonstration over the harbor. I was embarrassed when, at the top of a loop, the fire extinguisher dropped out into the harbor. After the show, a reporter wanted to know what the object was that fell through the air—it would never do to admit less than perfection for our squadron—so I told him it was a simulated bomb.

Officers and men became impatient, now that the war was over, to get out of uniform. I had a problem keeping them occupied during the day; they had little inclination to indulge in the night-time activities of this tropical island.

In May 1920, a new group of officers arrived to replace the reserve officers being mustered out. Included in the group were Ralph Wooten, Bob Olds, John Curry, Wright, Brooks, and Farrow. I received orders not long after this to report to Dayton, Ohio, for duty at McCook Field, the engineering establishment.

We took leave of the squadron and the many friends we had made in that tropical Eden, yet unspoiled by commercialism, with deep regret.

General Heard vetoed the customary formation salute to departing squadron commanders. We understood why when Hazel encountered him on the deck of the transport the next day. The general scared the wits out of her when he replied to her greeting, "good morning" with a stomp of his cane, and "What's good about it?"

Upon our arrival in Dayton, I settled the family on Brown Street. A salesman called while I was out getting supplies. Hazel explained to him that we had plenty of his soap powder, but he persisted in a lengthy pitch about another item that alarmed Barclay standing nearby with a trickling hose in his hand. To urge the man on his way, Barclay held the hose against the seat of the man's pants—the reaction was prompt and positive.

At McCook Field, I reported to Thurman Bane, the commanding officer, and was assigned to the chief engineer, George Hallet, as his assistant. This duty was fascinating. Development of aircooled engines was then in the initial stages. Eddie Hoffman was there experimenting with parachutes, and George Meed had an important project underway.

Notes

1. The consternation and hilarity were likely taken from the language in the memo, still unsigned, located in Knerr's Papers: 16 April 1919 states:

> There is entirely too much loafing going on about the Squadron. There are not more than 15 men in the outfit who are earning their pay. Apparently, the Squadron Commander's leniency and desire to let everyone do as he pleases, is becoming to be interpreted in the wrong way. This is not limited to enlisted men. Several of the officers are showing evidence of the same type of Bolshevism. This is where it stops. . . ." "From now on busted non-commissioned officers are going to be as common as ticks in Texas, and certain hard-working privates are going to get their chevrons. . . ." "You all have plenty of time to loaf. Now cut it out during working hours before you get HURT. By Order of Major Knerr.

Chapter 6

Back to Coast Artillery

1920–1922

Shortly after I reported at McCook, a disturbing letter arrived for me from Washington, DC. The chief of the aviation section wanted to know why I had authorized the use of aviation gasoline in private automobiles. In Washington, I explained that I had authorized a small allowance for the medical officer to make calls on our patients scattered around town, since my requisition for an ambulance had been disallowed. The interview became somewhat sticky when Menoher indicated he did not believe me. General Mitchell, standing in the doorway, shook his head to warn me when I said, I would do the same thing again under like circumstances—that was a mistake! I was ordered out of the room. I was promptly bounced out of the air and back on the ground in the Coast Artillery at Fort Barrancas, Pensacola, Florida. Once again, I felt I had been let down in a military service I had conscientiously served. I then considered the prospect of resigning, but further reflected that such would appear to confirm a dereliction of duty. I decided to make the best of the situation. Somehow, I would return to the Air, and vindicate myself.

Our quarters at Fort Barrancas had the reputation of being haunted—eight-year-old Hugh sometimes complained about an old man who stood at the foot of his bed in the moonlight.

The Navy Pensacola flying school was next door to the fort; I could see, hear, and smell airplanes all day. Some diversion occurred when the War and Navy departments arranged to use the USS *Massachusetts*, anchored offshore, as a target for our guns. Colonel Pirie came down from Washington to be the Army observer. I was detailed to do the spotting from a Navy H-16 flying boat. After the exercise I salvaged the heavy mahogany chart table from the wreckage and made it into a desk.

Another relief from boredom arose when I was detailed to the Coast Artillery Rifle Teams in 1920 and 1921. Apparently, I was a useful hand with a gun in both the Army and Navy. I qualified in both services for the gold medals of Distinguished Marksman with rifle and pistol. After the matches, I was nominated to be a member of the

United States Team at the international matches in England; however, when the team was about to leave on the USS *Utah, I* contracted influenza and was scratched.

Chapter 7

Army Air Service

1922–1923

In February 1922, I was able to get back into the Air Service with the help of General Mitchell. I was sent over to Carlstrom Field, Arcadia, Florida, for a refresher course. Major Ralph Royce was in command and C. C. Chauncey was head of the academic department. With their sympathetic assistance, I regained my flying proficiency quickly, and was consequently given special assignments.

One such assignment involved a search of the Everglades for a Cadet White, who had become lost when he mistook Lake Okeechobee for the Gulf of Mexico. With Scotty Croker, Barney Tooher, and Vic Strahm, we combed an area near Immokalee. On one sweep, Scotty spotted a small, white cloth laid out among the scattered pines. A white cloth in that wilderness meant only one thing. Scotty expertly slipped and fishtailed his airplane among the pines, made a successful landing, and picked up the exhausted cadet. He had wandered miles from his wrecked airplane. The airplane was left to the mercy of the weather, panthers, and Seminole Indians.

Barney was involved in a more serious incident when Major Royce detailed him to search for a still supplying the troops with moonshine of poor quality. Tooher took Sergeant Bredvadt with him on a dark night to search for the still. When they arrived in the area where smoke had been seen at the edge of the reservation, they followed their noses to an old shed. Barney stepped inside, he heard a click behind him, whirled and fired—the moonshiner missed—Barney did not. The local sheriff and a mob of Arcadia citizens demanded that Royce turn Tooher over to them; Royce felt so sorry, Barney had just left on a long training mission! Tooher was subsequently acquitted in Federal Court where he showed the buckshot scars across his back.

Carlstrom Field was closed in June 1922, after the family had joined me. The entire Garrison was loaded onto a special train for transport to Brooks Field, San Antonio, Texas, in one hilarious exodus of men, women, children, cats, canaries, and dogs. Chaplain Reynolds functioned as a wagon train boss.

At nearby Kelly Field, we were assigned to quarters in a dilapidated building with most of the screens rusted out. The local bug population accepted the open invitation. Hazel succumbed to influenza and pneumonia. The hospital took her and the kids in so I could go ahead with the training program.

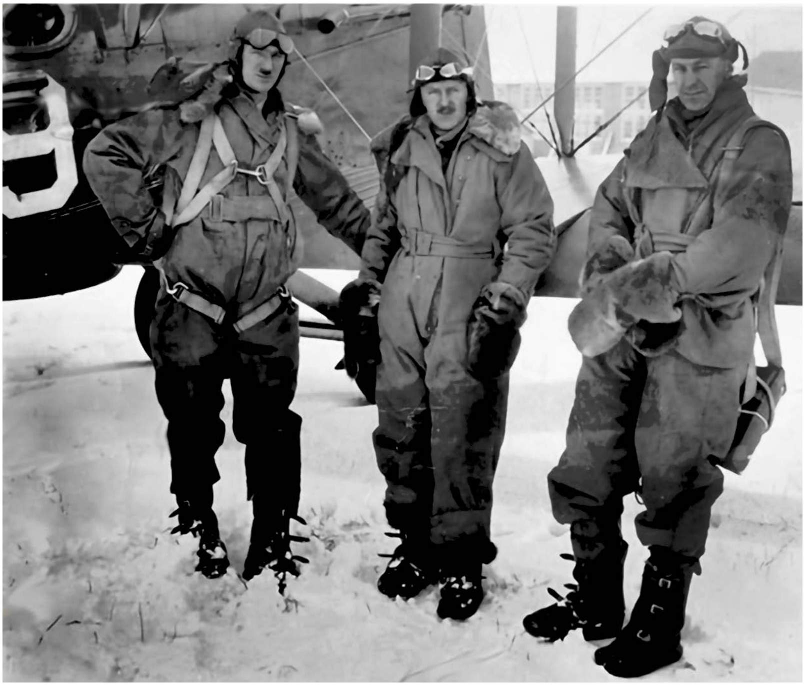
Chapter 8

88th Squadron Command

1923–1925

On the 23rd of January 1923, I graduated from the Advanced Flying School. I felt amply vindicated when General Mitchell had me assigned to command of the 88th Squadron, Wilbur Field, Dayton, Ohio.

Colonel Warner Robins was in command. He and Dorothy assisted us to get settled in one of the beaverboard shanties left over from the war. The big pot-bellied stove in the living room did a good job of roasting us, but the draft created by the stove drew enough cold air through the cracks in the bedrooms to keep them uncomfortably cold.



88th Observation Squadron on Army Model Airways 1924. *Left to right*: Knerr, Colgan, Pile. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The 88th was equipped with DH-4 airplanes. The DH was a good airplane for its day but had a tendency to catch fire between the cylinder banks. Wings were known to come off—Lieutenant Stewart Patterson's came off at 10,000 feet—a small consolation to have had Wilbur Wright Field renamed Patterson Field.

With Gen Hugh Drum commanding, our function was that of tactical support for the Corps area. Twice each week, regardless of weather, we furnished regular courier service over the Army Experimental Airway between Dayton, Washington, New York, and Norfolk (Langley Field). We pioneered all-weather flights for data to assist in the development of commercial aviation and airmail.

The officers and men of the Squadron were a fine group of men. Many had remained in the service during the difficult period after the war—all excellent mechanics and skillful pilots. My crew chief, Sergeant McKenna, was a typical Scotchman who rarely spoke unless spoken to, and then in as few words as possible. He would stay up all night, if necessary, to have my airplane ready to go the next day.

Our work with the Army Corps Area was carried on at Fort Knox, Kentucky. Aerial fire control became a routine task, until one day, Captain Colgan stalled our DH and we fell into a spin. It was my turn to be in the rear seat reporting fall of shot over the radio to the battery below. The trailing antenna, with a two-pound lead weight on the end, wound itself around the tail surfaces and made it difficult to get out of the spin before we hit the treetops. At the critique following the exercise, we were taken to task for doing acrobatics!

General Pershing made an inspection at the end of the season, followed by a parade on the flying field. Before the march-by, we called attention to the dust we would raise.

Nevertheless, we were ordered to taxi our nine airplanes at the tail end of the procession. A cyclone could not have raised a more stifling cloud over the reviewing stand. We took off for Dayton without waiting for developments.

On one trip over the Model Airways, I carried a load of important mail for a Congressional Committee investigating the aircraft scandal concerning wartime production of DH airplanes. A miserable day with low scudding clouds and near-freezing rain all but obscured the terrain below. We were all on edge with no place to set the plane down among the West Virginia mountains, when my airplane caught fire in the V between the cylinder blocks.

When the engine quit, I had only 3,500 feet altitude to decide whether to abandon the mail and jump or ride the airplane down. When I considered what the loss of the mail would entail, I decided to stay with it. I picked a logged off spot on the side of a rapidly approaching mountain, side slipped to wipe off the landing gear and crumple the wings. When the longerons broke, I was tossed out head over heels, and narrowly missed a stump—I had forgotten to refasten my belt after I stood up to see through the smoke. Fortunately, the gas tank did not catch fire. The schoolteacher at a nearby schoolhouse drove me over to the Moundsville Depot, where Red Simonin provided another airplane, and I delivered the mail in Washington that same day.

A crew from the Moundsville Depot burned the remnants of the airplane on the spot after the kids from the school had cannibalized it. Back at Wilbur Wright Field, the flight surgeon checked me over. I minimized my twisted neck and sprained back for fear he would take me off flying status. My parachute was drop-tested the next day because it was wet—it failed to open!

The dirigible *Shenandoah* was wrecked in a remote area of the Ohio River Valley on the morning of 3 September 1925, while on a publicity tour of the Midwest, undertaken over the protest of Commander Lansdown, because of severe weather forecasts along the route. That morning, it was my turn to fly the official mail from Dayton to Washington. The weather was bad indeed, with rain and turbulence; within the space of one hundred feet of altitude, air currents were crossing at 90 degrees.

Not far from the Ohio River, I noticed a strange landmark. Men in Navy uniforms were walking about in obvious distress. The object was part of a dirigible! I hurried on to Washington to alert assistance. The newspapers reported: "Major Kerr made the first report of the disaster." Some wondered who this Kerr fellow was. Commander Lansdown was among those killed. Lieutenant Colonel Mitchell, in exile at Fort Sam Houston, San Antonio, Texas, where he had been sent when demoted from major general, issued a news release. He accused the military establishment of: "Incompetency, criminal negligence, and almost treasonable administration of the national defense." The inevitable courts-martial followed in November 1925. No doubt Mitchell welcomed the trial to publicize his theories on airpower and to call attention to the obstructive attitude of the Army and Navy.

Mitchell was not tried for violation of any article of war pertinent to the indictment: the old "Mother Hubbard" 96th Article was spread wide to gather him in for, "conduct prejudicial to good order and discipline."

On another occasion, while hedgehopping on my way home from Indianapolis, a rocker arm on the Liberty engine broke just as I approached a low hanging powerline: it was either over or under, with danger of snagging the 42,000-volt line in either direction; I chose to go under, bounced over a low ridge, and rolled into a cherry orchard. The government received a bill for one hundred dollars' worth of cherry trees—with cherries.

In August 1925, I was detailed to attend the Air Service school at Langley Field, Virginia. The quarters assigned to the school were modern brick houses, nicely landscaped, and had been built for the civilian engineers on the National Committee for Aeronautics.

I approached the course of instruction with high hopes for the vision of airpower set forth by General Mitchell. Instead, pursuit aviation was emphasized as the basic weapon for the Air. In my opinion, bombardment aviation could destroy the enemy's means for resistance at the source on the ground, rather than after he got into the air and could do the same to us. I insisted the supply and maintenance function was far more effective in deciding the issues of the conflict than glamorous air battles, for the simple reason that when you take an enemy's bullets and beans away from him, his airplanes become impotent.

Before long, my disagreements with the staff became uncompromising. The other members of the class were behind me—far behind. They reminded me of the Antarctic penguins lined on the edge of the ice, waiting to see what would happen to the first one in. It did not take long!

Maintenance of the school aircraft was so poor, it was dangerous. Informal complaints produced no results until the day a pursuit type was assigned to me. Soon after takeoff, the feedline from the upper center fuel tank pulled apart at the hose joint, directly in front of my face. Why there was no explosion in the deluge of gasoline is still a mystery. This, and other incidents impelled me to make an official report concerning the sloppy maintenance of aircraft we had to use. An investigation was made all right—by the school that resulted in my being placed under arrest, pending the outcome of the investigation. The advisability of not sounding off in the face of entrenched authority was yet to be learned the hard way.

A day or two later, another pursuit airplane was assigned to me. This airplane had no lateral control after takeoff. By sideslipping, using motor torque, and skidding with the rudder with a wide swing over Back River, I managed to line up the airdrome and make a safe landing. When I taxied up to the flight line with ailerons hanging down—Major Naiden, the pursuit instructor, hurriedly left. This time, an appeal for an inspector general was made. When the dust settled, my arrest was repealed, certain individuals were reprimanded, and most of the airplanes junked.

The courts-martial of General Mitchell, November 1925, had a depressing effect within the Air Service; a nebulous concept of airpower had developed with his leadership. Unfortunately, we were considered brash upstarts in the military family whenever the subject was mentioned. Mitchell's courage in castigating fumbling leadership in the Army and Navy was like a breath of fresh air in a stuffy room, filled with stuffy people. His relief from assistant chief of the Air Service, demotion to lieutenant colonel, trial, and banishment to Fort Sam Houston, Texas, was shameful persecution. When I offered to testify on his behalf, he told me he would call me in if necessary, but in the meantime, to carry on.

The events of recent years caused me to wonder why differences of thought or opinion should be taken so seriously in military circles—after all, such are meant for the good of our national defense. Obedience to, and respect for superiors is a military necessity but the possibility also exists that the spotlight of distinction must not rest on one individual too long—the rest show up in poor light.

Chapter 9

Army Command and General Staff School

1926–1927

After graduation from the Tactical School, June 1926, I was ordered to the Command and General Staff School at Fort Leavenworth, Kansas. We made another trip west for a visit with the folks at Nederland, Colorado, to fill in the time before school opened. The crisp, pine-scented air, so near the Continental Divide, added zest to every fishing trip, hike, or lazy afternoon beneath the pines back of the cabin; where mother enjoyed her hammock, and father puttered with his microscope.

As we drove the way west through Atchison, I found the city had changed little. Streets and stores had the same casual appearance; the population was static at twenty thousand, and pedestrians were in no hurry; the combination wagon and railroad bridge across the swirling Missouri rattled the same as ever.

At Fort Leavenworth, we were assigned to quarters on the third floor of an ancient brick barracks in use as apartments for student officers. Wooden verandas, stairways, and floors made the building a firetrap—fortunately, no fire occurred while we were there.

Major Coleman, a student, disappeared one morning while we were waiting for school to start. He was last seen running past the high stone wall of the Penitentiary, dressed in dungarees while exercising. Late that day, one of the guards called the officer of the guard to complain he could get nothing out of one of the prisoners. An investigation revealed the major seated in a cell with a happy grin on his face. He said a guard reached out and grabbed him as he was running past a sally port—he figured it was up to them to find out who he was—he was like that.

The academic building, an imposing structure, had an aura of unlimited authority. Many members of the new class were clustered before the bulletin boards on registration day—all strangers to me. A schoolboy, on his first day at school, could have shared my apprehensions; for this indeed, was the institution to which many aspired but few are chosen to attend. I wondered why I was there.

The mission of the school aimed to develop potential generals and general staff officers. Problems in military operations were assigned to the students to work out on maps, which were turned in to be marked *satisfactory* or *unsatisfactory*; more *unsatisfactory* marks than *satisfactory* were given to me because of my persistent use of airplanes instead of horses.

The Air Service members of our class maintained their flying proficiency during the 1926 Christmas holidays by taking extended cross-country flights. I used a DH for this purpose, with the intention of flying to Dayton for a surprise visit with relatives. While the airplane was being serviced at Belleville Air Base, across the Missouri from St. Louis, I had a sudden premonition not to go on. Delaying departure in the office of the commanding officer, my classmate Harold Straus, a messenger rushed in with a telegram for me to return to Leavenworth at once: Barclay had suffered a serious accident.

My worst fears were realized when I entered our apartment and found mother, father, and the George Kenneys, in tears; Barclay was gone. He was the victim of a truck and bicycle accident. Hazel, in another room, was under deep sedation.

The remaining months at the school were an agony of grief and despair. Only those who have suffered in like fashion could understand how one never fully recovers. The shock for Hazel was extreme. Many months passed before she could face reality. The impact on young Hugh was severe—he could not understand why he had lost his companion.

Chapter 10

Second Bombardment Group

1927–1930

From Fort Leavenworth, I was ordered back to Langley Field to command the Second Bombardment Group. At that time, there were only three full combat groups in the newly named Army Air Corps, which by now, had shrunk to 919 officers and 8,725 enlisted men, with no standard attack or bombardment airplanes.

The second group was organized with two squadrons of Keystone LBs and one squadron of Martin MB-2s, thirteen aircraft to each squadron, all biplane, bimotored. They could do one hundred miles an hour for a short time without overheating.

The commanding officer of the group, Major Louis Brereton, had left before my arrival. Captains Asa Duncan, Harold Beaton, and Hackett were the squadron commanders, and Lieutenant Kenneth Walker, the group operations officer. The line and crew chiefs were excellent men of long experience. The lack of enthusiasm of all this talent for their jobs was quite evident. Lack of leadership, of course, was basic to the situation. I applied the same medicine I had used in Hawaii—a training program which left everyone too tired to get into trouble on weekends. These activities soon revealed the bird cages we were flying were totally inadequate for war-time use. However, with the equipment on hand, we developed many practices and formations successfully employed in World War II.

Lack of funds to maintain our aircraft curtailed our training program and caused a deterioration of morale. When we were notified that our quarterly allowance of fuel would have to be spread over a year, I politely inquired whether oats for the cavalry horses would be similarly curtailed. I was taken to task for being facetious—I had not so intended. Funds for the Air Service were doled out by the Army from their appropriations. Every dollar given to us meant one less for some Army project.

My inquiry was intended to point up the need for an Air Service budget. I decided to burn up our entire year's supply of fuel on a mass group flight to the Pacific Coast to bring the situation to the attention of Congress, and to dramatize our capability of defending both Coasts—if we had the means with which to do it. The flight was a tough operation. We made it on 7 August 1929, from daylight of that day to sunset of the next, with refueling stops at Kansas City and Albuquerque. There were no navigation aids then, such as those enjoyed by pushbutton pilots of today. The weather was bad most of the way. Dodging unpredicted thunderstorms during the long night between Kansas City and Albuquerque, with cumbersome, ninety-mile per hour airplanes having to be flown every second to maintain control was exhausting work.

Occasionally, we hit an unseen storm that could not be avoided; then one by one, I would see the blue flame from exhaust stacks drift into close formation back of me—their ghostly outlines revealed now and then by flashes of lightning. Expert airmanship was required to maintain contact and control in the pulverized deluge sweeping through the open cockpits.

With no radio or lighted beacons for guidance, I had to rely on a compass course to bring us to Albuquerque by daylight. My copilot, Lieutenant Tyndall, urged me to go higher and higher as we approached the Sangre de Cristo mountains. I could not do so because the needle on our last gas tank was nearing zero, and to gain altitude would cost fuel. When we dropped into Albuquerque, several airplanes had only a few gallons left in their tanks.

The rest of the flight was routine, except for difficulty in skimming over the Continental Divide. We landed at San Diego just as the sun was setting. I detailed Jake Harman to continue on out over the Pacific and symbolically bomb the Bishop's Rock buoy.

Later that evening, we received a telegram from the chief of staff of the Army, congratulating us on our performance. That recognition called the attention of Congress to their neglect of the Air Service.

In April 1930, a wing exercise was directed to include the First Pursuit Group, the Second Bombardment Group, and the Third Attack Group. This project required us to leave our home bases at a given time and arrive over the City Hall in Los Angeles at exactly noon, three days hence. The three groups left their stations as ordered. Our Second Bombardment Group, however, was the only one to arrive as directed. To accomplish our mission, we flew through the worst weather we had ever encountered. The groups with the easiest airplanes to fly arrived two days later—they said they were laid up in bad weather on the way.

A disturbing element had entered our plans before we left, when the War Department authorized a newspaper reporter to accompany us, with the status of an officer. When the reporter showed up, it was a Miss Mason! I imagined all sorts of complications with a woman riding shotgun in my airplane—particularly, with her pet turtle roaming around among the controls. I solved the problem by assuring her she would be far more comfortable in one of the two-seater observation planes. As we were ready to leave, I told the pilot of that airplane to get lost until he arrived on the West Coast.

The punishment we took in the open cockpits and gun stations of the Keystones and Martins soon convinced me we could not survive in combat. The experience of Boeing Aircraft with their enclosed Mailplane, and the emergence of monoplane design, clearly indicated the means whereby we could increase our efficiency, speed, and load-carrying ability. In October 1927, I submitted a letter to our Washington headquarters which I urged the development of a bomber capable of carrying a one-thousand-pound bomb to a service ceiling of ten thousand feet, at a speed of one hundred and fifty miles per hour—a fantastic proposal at that time.

Jan Howard, chief engineer at Wright Field, currently thinking along the same lines, completely agreed with me. A meeting was held in General Foulois office to explore the types that could be developed, and I was called upon to present my ideas. A group of aircraft engineers, in attendance at a meeting of the National Advisory Committee for Aeronautics at Langley Field, called at our group operations office to get first-hand information, based on our practical experience. In due time, a design competition was authorized: Boeing submitted their B-9; Douglas, the B-18, a passenger plane with machine guns; Keystone, the Condor; and Ford, an airplane based on Stout's designs.

The exercise of 1930 emphasized the importance of mobility; without it, our aircraft would be tied to a truck for support. Therefore, the obvious solution was to develop ancillary aircraft for logistic support to all echelons of the air arm. To illustrate this concept, we set up a field exercise across the Bay at Virginia Beach that was inaccessible for ground transportation. We operated our base among the sand dunes for ten days. Within the bombers, we hauled everything from beans to bombs. My report on the exercise stressed the need for specialized military transport; eventually, such transports were developed.

We had airplanes of sorts, but no means for making them effective, due to the lack of bombsights. We devised our own do-it-yourself methods, while the Engineering Division at Dayton conducted long-range studies on the Norden, Seversky, and Ingles proposals. Meanwhile, I was able to get fair results with strings rigged in the bomb bay, over which I could draw a bead on the target. I guided the pilot above with strings tied to his arms.

Chapter 11

Army War College

1930–1931

In September 1930, I was relieved from the second group and ordered to the Army War College, Washington, DC. Cutting our ties at Langley proved difficult. I had come to consider the officers and men of the group as a family for which I was responsible. We had engaged in many, untried, sometimes dangerous operations, without losing a man. Together, we initiated new concepts and methods in building a great Air Force before war overtook us. Many of our officers became outstanding leaders during the war. To name only a few would slight many others of equal recognition in the national defense establishment.

At the war college, an atmosphere of dedication to solving problems troubling the national defense prevailed. The location of the college, within walled confines of old Fort McNair at the junction of the Anacostia and Potomac Rivers, inspired a serious attitude in Army and Navy students selected for high command. Growing appreciation of airpower left me with no windmills to challenge.

Major Hanns, librarian of the war college, when not otherwise engaged, indulged in his hobby of translating the ancestry of students with German names. The only knowledge I had concerning the origin of our family before Great-grandfather Ludwig Knörr, had been stories by Grandfather Knerr, and comments by my aunt Mary that I should not inquire too closely or I might find an ancestor who had been a pirate on the Danube, bought off with a title to let the King's goods alone—a decidedly favorable asset in my opinion.

Major Harm's translation ties in with our knowledge that Ludwig Knörr, had abandoned everything in Upper Austria, moved over into Bavaria, married Maria Hesse, and established himself near Darmstadt, Germany. Later, he renounced his allegiance to the King of Bavaria and came to America, where he established a residence at Toledo, Ohio.

According to Harm's translation, our family name derives from a Protestant Knörr Von Rosenroth, , on whom the title of Baron was conferred at Vienna, 6 July 1533, with succession certified to 1856.

Great-grandfather Knerr was born in 1798 and died in 1868. We were grateful he amputated the long tail in our name.

I became highly elated when General Foulois informed me I was to go out to Dayton for duty as the chief of the field service section in the Engineering Division, where I would have the opportunity to do something about the many complaints I had made while in command of the 88th Squadron and the Second Bombardment Group.

We were reluctant to leave Washington because of many visits to our home at Epping Forest. Deep in the woods on Clements Bay, five miles up the Severn River (above Annapolis), we enjoyed complete relaxation from the tension of military and political affairs. We turned the key and left our haven in care of the raccoons, ducks, geese, ospreys, and Peanuts the squirrel, promising them all we would return when the shadbush, redbud, and dogwood, ushered in the spring.

Meanwhile, young Hugh, at William and Mary College, decided he would like to enter the Navy. I called on Vice-President Curtis, who, when a Congressman from Kansas, had appointed me to the Naval Academy in 1904. The vice-president informed me he had no direct appointment vacancy, but he would give Hugh a chance to take a competitive examination for third alternate. Hugh took the examination, and when the three ahead of him failed, he received the appointment in June 1930.

Chapter 12

Army Air Corps

1931–1935

My first objective when I took over the field service, after graduation from war college in June 1931, was to establish more effective contact with the operating bases through improved logistic procedures. Shipping costs and slow rail delivery cancelled out much of our capacity for speed and mobility. My experience in the Second Bombardment Group with aerial transport had convinced me of the need for specialized aircraft. The fantastic costs of crating could be eliminated using cartons, easily handled, and easily stowed in aircraft. Other advantages were the savings in time and inventories.

With headquarters in my office, I obtained authority to organize the First Transport Group of four squadrons. There were no cargo aircraft in existence at that time. To remedy this deficiency, we gathered all the old worn-out bombers, Ford Tri-motors, Ballancas, and so forth, repaired and outfitted them for cargo service. This group gradually developed into the military transport service and laid the foundations for a civilian air cargo industry.

During February of 1934, the post office canceled its contracts with the airlines. The Army Air Corps was called to carry the mail. We organized our First Transport Group for the operation with headquarters at Wright Field in the Field Service Section; an Eastern Division with B. Q. Jones in command at New York; a Central Division with Horace Hickam in command at Chicago, and a Western Division with Arnold in command at Salt Lake City. I was charged with the responsibility of equipping and supplying the system.

This arbitrary assignment to an impracticable task was inexcusable. Washington Headquarters should not have yielded to political pressure. We had neither the personnel nor aircraft for an operation the Air Mail had taken years to develop. No one paid any heed to our warning of certain disaster. Within three weeks, nine pilots had been killed in the worst blizzards on record. The Air Corps was made the scapegoat of bureaucratic sensitivities. They were unable to perform because of lack of funds to fill the empty holes in the instrument boards of its aircraft.

The Air Mail fiasco alerted the public to the sad state of its air defenses. Investigations resulted in several civilian boards, among them the Baker Board. The Baker Board recommended a General Headquarters Air Force within the War Department—an obvious device to head off an Air Force co-equal with the Army and Navy; however, its recommendations were clouded with a pontifical opinion: "That independent air missions have little effect upon the issue of battle and none upon the outcome of war." Certainly, this was a good example of politicians who become military experts when placed in authority.

The inquiries following the airmail troubles gave my office an opportunity to stress the need for rapid distribution and control of supplies and equipment, as a basic requirement for an efficient Air Service. This gave me a chance to work closely with Congressman Wilcox on a plan to establish depots for service to air units in eleven air materiel areas. Considerable political harassment developed because Wilcox opposed President Roosevelt's attempt to pack the Supreme Court with additional appointments; nevertheless, through expert needlework by Wilcox's secretary, "Bill" Herin, the Wilcox Bill became law.

The close association which the field service now enjoyed with the Engineering Division enabled us to transmit the experiences of operating units to the agencies responsible for developing equipment essential to an efficient air arm.

The Martin B-10 won the design competition for a modern bombardment airplane in 1933. A test flight by a squadron of airplanes to Alaska was projected for the summer of 1934.

General Westover, chief of the Air Service, was to command the flight. All preparations for the expedition were charged to me as the executive officer of the project. When General Westover was unable to get away from Washington, Lieutenant Colonel Arnold substituted for him. Arnold arrived at our base, Wilbur Wright Field, 25 June 1934, and after a brief stay for a conference returned to Washington.

When six of the airplanes were delivered, I took them on a shakedown flight to Dallas, Texas, and returned on the same day. The B-10 was fun to fly. You did not have to sit out in the weather; however, the enclosed gunner's pulpit out front made the airplane difficult to land because it obscured the flight path.

We had ten B-10 1s on hand by the time Arnold rejoined us, together with fourteen pilots, sixteen mechanics, and an inventory of supplies and equipment, adequate to the self-sustaining operation.

Hard work and Arnold's compatible disposition brought morale to a high level by the middle of July.

Arnold, Knerr, Mayor Collins, and crew of the "1934 Alaskan Flight," Fairbanks, Alaska, 1934. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

My plan to ship everything we could not carry in the airplanes by water fell through at that last moment, when a maritime strike broke out on the West Coast. Our mission included photographing the Mount McKinley massif for the topographical survey. This project became George Goddard's responsibility. He and his equipment, along with two spare engines, fuel, spare parts, and so forth, had to be at Fairbanks when we arrived. The prospect of making the flight appeared to be dim. When the project was about to be called off, we made arrangements with the Navy to ship our equipment, provided we delivered it to them at San Diego. However, such an arrangement did not appear to be advisable when we learned they were preparing a similar flight by seaplane. Then, we obtained the use of an Army Engineer's water barge at San Francisco for the purpose.

Meanwhile, training of crews on the unfamiliar airplanes was conducted. I was almost counted out during the process when a cylinder on my left engine exploded shortly after takeoff.

By that experience, we learned that the B-10 could not maintain altitude for long on one engine. I managed a wide turn and got back on the airdrome with a few feet to spare.

Early in the program, General Westover was forced to withdraw. Since Major Malcolm Grow had been active in preparing the medical supplies, I asked to have him substituted for Andy Smith as flight surgeon.

By 15 July, all arrangements had been completed and we got away on time. Pilots of the airplanes included: Knerr, Royce, McClellan, Snavely, Tyndall, Stewart, Larson, Corkill, Carr, Hannan, and Arnold, with his aide, Dunn.

Arnold led the flight with his three airplanes. I followed with my three, and Royce followed me with his. Captain Nathan Twining accompanied us as far as Minneapolis with a spare airplane.

We made several refueling stops in Canada. The skill of the pilots was severely tested at Dawson, where a short landing strip had been cleared at the edge of the forest. The long-neglected town and its inhabitants left in the wake of the gold rush had changed little since Robert Service wrote *Sam Magee* and *The Face on the Barroom Floor*. Even the steamboat, tied up at the riverbank, appeared to be waiting for something to happen again.

Beyond Fort Nelson, the prairie and lake country gave way to the snowcapped Selwyn Mountains. Grazing buffalo were no longer seen. Our attention now was fixed on the awesome jungle of the scene below. We hoped Arnold knew where he was. In due time, the wide swathe through the forest marking the boundary between Canada and Alaska passed by, and Fairbanks showed dead ahead.

At Fairbanks, we were met by Mayor Collins and most of the population of that area. We were relieved when the mayor informed us a train had just arrived from Valdez with our supplies and equipment. Arnold asked me by what magic we had overcome the handicaps that had beset us to have this surprise awaiting him; I pointed to my appearing bald spot.

Colonel Arnold assembled us at the post office after the welcoming ceremonies and read the orders that established the photographic requirement. He also gave us assignments for individual flights to Fort Yukon, Anchorage, Ruby, and Nome. I drew Fort Yukon above the Arctic Circle.

The Fairbanks Post Office, a modern multistory building, had been designed for temperate zone use. It was slowly sinking into the permafrost foundation under the influence of the steam-heated structure—pork barrel politics.

We occupied a small frame hotel near the sled dog kennels. The dogs set up anguished howls on nights when the Aurora Borealis draped swaying folds of celestial color on the northern horizon. One could imagine they were giving voice to their loss of ancestral freedom. We found it difficult to adjust to the half-light of these high latitudes—we never knew when to turn in and, consequently, felt sleepy most of the time.

Johnny Corkill, the engineer officer, kept us supplied at the restaurant with grayling he caught at a nearby lake. Mayor Collins contributed steak from the mastodon recently sluiced out of a riverbank at the Guggenheim placer mining site. The steak tasted like old rancid bacon, very old; in fact, twenty thousand years old in glacial cold storage. I brought the big molar tooth home with me.

We made the most of the few days when the majestic bulk of Mount McKinley dominated the southwestern horizon. A severe sinus infection prevented me from participating in the photographic missions. I kept in touch with them from my airplane on the ground by radio. George Goddard obtained satisfactory coverage with his seven-lens cameras. The topographic survey made contour maps of the region from the strips.

On days when photography was impossible, we visited many interesting places; the Guggenheim operations; the Cleary Creek hard rock mine of the Gustafsons; a visit to a Sourdough's claim, where he let us pan for a few grains of gold. Lieutenant Stewart slipped a $5.00 gold piece into the pan Ralph Royce was working. When Ralph saw the glint of gold, he grabbed for it and spilled the pan. They were still panning for it when we left.

Arnold, Royce, and I flew our airplanes down to Anchorage to inspect the new airstrip. While we were discussing the merits of the facility, a lieutenant from the photographic party joined us and requested permission to make a short flight. My objection that he was unfamiliar with that type airplane, and we should take no chances on getting all the airplanes back to our home base, was overruled. The lieutenant got off all right but became confused with the fuel distribution valves and disappeared below the trees toward Cook Inlet. Arnold did not like my comments and ordered me to the rescue.

I found the airplane sitting on the steep beach at the edge of the water. Fortunately, the pilot had made a wheels-up belly landing. The airplane did not appear to be badly damaged. To float it to the Anchorage dock where a crane could hoist it onto a flat car, appeared to be feasible. The engineer officer arrived shortly and recommended salvaging the engines, cameras, and instruments. When we could not agree, he left. Back in Anchorage, I loaded a truck with eight empty oil drums, and a quantity of rope with a view toward getting the airplane waterborne on the incoming tide.

When Jake Harman joined me with his crew chief, we rigged the oil drums to two poles, lashed the poles under the wings, emptied the gas tanks, and waited for the tide to lift the airplane—which it barely did. The frigid water lapping at our knees promised nothing pleasant in the half-light of the Arctic region.

We prepared a towline and hailed a passing fisherman with an offer of one hundred dollars to tow us to the dock two miles away. Once free from the beach, we stayed in one spot for lack of power from the boat, then started to drift out to sea on the ebb tide. Fortunately, a Fish and Game Patrol launch spotted us in the gathering darkness and took the slowly sinking airplane in tow. The airplane grounded far out from the dock in deep glacial silt.

We hooked the wire from the winch on the dock to a bridle off the propeller hubs of the airplane. When a strain was taken on the cable, the escape hatch below the cockpit scooped up the silt and stalled the winch. A toboggan of corrugated iron was worked under the nose, and the airplane dragged into the dock and lifted onto a flatcar. The local fire department hosed the slit out, and our expert mechanics had the airplane ready to fly back to Fairbanks while we thawed out at the Pioneer hotel in Anchorage.

When the mapping project was finished, we loaded bear skins, moose horns, the huskie pup, and other scrimshaw into the airplanes and joined the geese on the long flight southward. From Fairbanks, we flew over the glacier-clad Saint Elias Range to Juneau where we christened one of the airplanes, *Juneau*. At the ceremony, Royce and the sponsor disappeared behind the airplane, drank the champagne, and substituted a bottle of soda—Arnold laughed at my protest.

We stopped overnight at the Boeing Aircraft airfield. In the evening, we attended a dinner in our honor, where a Navy speaker raised objection to the Air Service being allowed to venture more than a few miles beyond the coastline; this raised a small wave that eventually reached tidal proportions.

From Seattle, we roamed across the sky, like kids on the last day of school, until the Washington Monument appeared in the far distance to call us to order in a tight formation.

Despite many difficult and hazardous situations, we had accomplished our mission without the loss of personnel or equipment, in untried aircraft, over the roughest terrain on the Continent.

One leg of my landing gear would not come down on the approach to Bolling Field, Washington, DC. A decision had to be made within seconds whether to crack up on the field before a large crowd—including the family—or ditch in the Potomac River; either way, it would be an embarrassing end to the Alaskan Flight. We circled the field and over the river while Sergeants Cattarrius and Cushing, down in the bomb bay, struggled to get the gear down in time for me to rejoin the formation and land.

General Westover, chief of the Army Air Corps, with his Staff was there to receive us and congratulate all of us on having earned the Distinguished Flying Cross. He was particularly interested to know how I had been able to fish one of the bombers out of Arctic waters with so little apparent damage.

When the Army Awards Board met, as executive officer of the flight, word was sent to me whether there would be any objection to Arnold being awarded the cross in the name of the flight. I sent word back, I had no personal objection but thought General Westover's promise that each member would be decorated was of overriding importance—the Cross was awarded to Arnold over his objection and a mild Letter of Commendation from the Secretary of War was given to the rest.

After the Alaskan adventure, I found the routine of my desk at Wright Field boring and frustrating. I lost no opportunity to enliven the situation by calling attention publicly to the lack of instruments and equipment that caused the airmail fiasco, when in fact, the fault lay with a negligent Congress.

Eventually, public opinion demanded action. The Baker Board was appointed to make inquiries into all phases of alleged mismanagement of the Air Service by the War Department. After many hearings, the board recommended a General Headquarters Air Force capable of operating independently or in cooperation with ground forces. The dawn of a new era for airpower thus came about on the last day of 1934.

Hugh Jr. graduated in the upper half of the class of 1934. A spasm of false economy hit the Navy, and only the upper half of his class was to be commissioned. Hugh had his doubts about a Naval career and vacated his place for one who wished to stay with it. He enrolled at Massachusetts Institute of Technology in naval architecture. From there, he joined the Newport News Shipbuilding Company.

Hugh and Miss Sallie Frost of Plattsburg, Missouri, were married in October at the Naval Academy chapel. We were all pleased with his marriage. The Frosts were good friends of my parents at Kansas City.

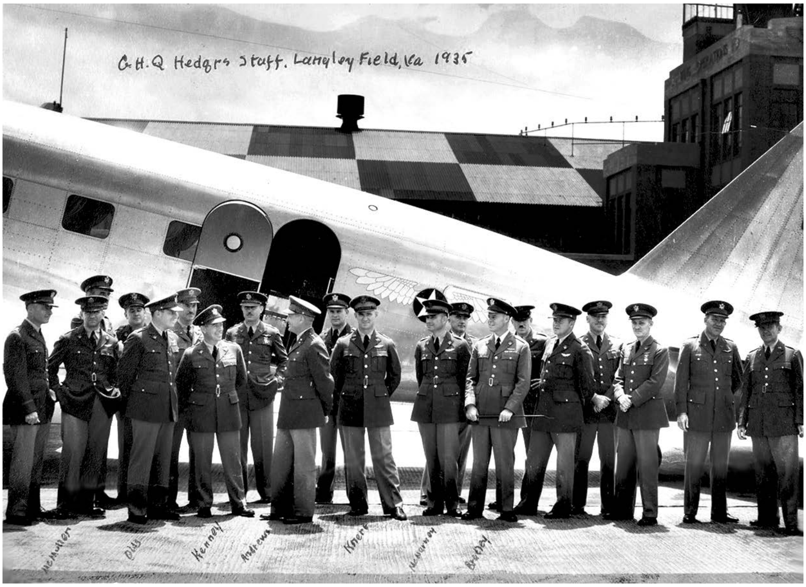
Chapter 13

General Headquarters Air Force

1935–1938

The newly created General Headquarters (GHQ) Air Force, US Army was established 1 March 1935 to function as the air arm in support of ground armies. Headquarters was established at Langley Field, Virginia. The scattered units were organized in three wings with their headquarters at Langley Field, Virginia; March Field, California; and Barksdale Field, Shreveport, Louisiana.

Brig Gen Frank M. Andrews was designated as the commanding officer. He was a member of the War Department general staff and amenable to its policies; a quiet-spoken Scotchman, handsome in his uniform that accented his muscular build and wavy gray hair. His kindly blue eyes seemed to sense your thoughts before you spoke. He was the image of an ideal leader of strong men.



GHQ Headquarters Staff, Langley Field, Virginia, 1935. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

General Andrews knew he would be faced with conflicting loyalties; he selected a staff to function as a buffer while he acted as a stabilizing influence in the controversies certain to arise; he selected me to be his chief of staff; Harvey Burwell for G-1; Follet Bradley for G-2; George Kenney for G-3; and Joe McNarney for G-4.

With no precedent to follow—nor hinder—we brought the B-17 bomber into focus as the basic weapon for *airpower*, together with a logistic establishment to give it worldwide capability.

Regular staff meetings were held in my office where past activities were reviewed and plans for future growth formulated. Proposals from each staff section were boiled down to essentials to be presented to General Andrews at an appointed time. He was relieved thus of detail and enabled to make decisions without time consuming distractions—if he wanted more detail, he called in the staff officer concerned.

General Andrews, Commander GHQ Headquarters, Langley Field, 1938. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Com'dg. Gen'l.
and
Staff
G.H.Q. Air Force
Langley Field
- Va.
Feb. 21st
1937
LJS
G.H.Q. Staff 1935
McNarney
Knerr
Andrews
Chauncey
Bradley
McMullen

Commanding General and Staff GHQ Air Force, Langley Field, VA, 1937. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

We held maneuvers in all parts of the country, in all kinds of weather, to test our theories. These exercises soon revealed gross deficiencies in logistics and aircraft.

When the GHQ was authorized, the War Department kept a tight rein on Andrews by retaining control of logistics at the headquarters of the Army Air Corps. This was like giving a youngster an automobile but leaving the keys with his mother.

Differences between us and the War Department arose immediately. As the protagonist for the B-17, General Andrews asked me to carry the ball at the War Department Budget meetings. I devoted much time and care to explaining our *airpower* theories and why we considered the B-17 essential for a balanced GHQ Air Force to support the Army. The outcome was arbitrary disapproval by Secretary of War, Woodring.

The Army feared we would cut heavily into their budget. The Navy, likewise, viewed with alarm, our invasion of their domain. An agreement had been reached between the Army and the Navy to limit operations of the Air Corps to within 300 miles of the coastline; Admiral

King advocated 100 miles. Our interception of the ocean liner Rex, 750 miles off the East Coast, was brushed aside as accidental. When we bombed the *Utah* in a fog, 500 miles off the West Coast, the report was locked up in a safe and never revealed. We accomplished these demonstrations through use of aerial navigation methods we had developed with the aid of my friend, Commodore Weems, US Navy.

After the last budget meeting, I appealed to Gen Malin Craig, chief of staff of the Army, to convince him that adequate bombardment preparation would reduce Army casualties—but to no avail. He advised me to ask for Douglas passenger airplanes and equip them with machine guns!

With the meagre funds allotted to us, we were able to procure only 13 B-17's, and a few other types for a research and development program. We made do the best we could with our obsolete aircraft and laid the foundations for the great Air Force that gained the decision in World War II.

By 1937, we were convinced we would become involved in any war that threatened our Pacific frontier. Adequate *airpower* would be the only means with which we could defend that frontier. Our frustration was overwhelming when in 1938 we were ordered to limit our requests for bombardment types to light, medium, and attack; an open invitation for any foreign power to help itself to our Pacific possessions. In this year of Munich, we were denied the basic weapon of airpower.

The following statement by General Embick, the War Department deputy chief of staff, reveals the sad state of official thought:

(1) Our National policy contemplates defense, not aggression.

(2) Defense of the sea areas, other than within the coastal zone, is a function of the Navy.

(3) The military superiority of a B-17 over two or three smaller airplanes that could be procured with the same funds remains to be established. In view of vulnerability, consideration of air base limitation, and complexity in operation is given of the former type. If the equipment provided for the Air Corps is best adapted to carry out the specific functions appropriately assigned to it under joint action, there would appear to be no need for the B-17.

That is the sort of stupidity we had to contend with! General Andrews' reaction was quiet determination to carry the fight to the secretary of war personally.

I accompanied General Andrews to the meeting with the secretary of war and the general staff, where he carefully presented our understanding of the Air Corps mission. The staff paid close attention, but the secretary was bored with a matter he could not understand—his mind was fixed on 2320 airplanes in the Army budget and wanted the cheapest.

The official history of the United States Air Force states:

> "On the eve of Munich, the Air Corps was deprived of the mission for which it had developed the B-17 and was forbidden to purchase and B-17's beyond the forty already ordered. Not only did Knerr and Andrews fail to get their heavy bombers but appeared to have blighted their careers for good by their persistent opposition to official policy."

Andrew's staff was progressively broken up and scattered after February 1938. I was demoted from colonel to lieutenant colonel and sent down to Fort Sam Houston, Texas, where I would be under the watchful eye of General Brees who on one occasion had stated I would never make general officer grade. Kenney was sidelined to an Infantry School; Bradley was submerged at a distant station, and McNarney disappeared into the Pentagon labyrinth where opportunity for advancement was more abundant.[1]

Notes

1. Construction for the Pentagon began 11 September 1941.

Chapter 14

Fort Sam Houston and Retirement

1938–1939

My office at Fort Sam Houston was in a remote part of the high stone wall surrounding the ancient fort. A photograph of Lieutenant Colonel "Billy" Mitchell, on the wall back of my desk, made me feel highly honored to be his successor. I felt comforted when a welcoming committee appeared in front of my desk: two deer that lived within the compound, expecting the cookie handout Mitchell provided.

My duties as air officer of that Corps area included the supervision of the Air National Guard and Reserve units; to be always ready to fly General Brees on his inspection trips along the Mexican border of Texas, New Mexico, and Arizona. I found the old border towns, baking in the hot sun, fascinating, and the company of the Sheriffs in the cantinas inspiring.

To relieve the boredom of my situation, I wrote a book. Van Nostrand published the book to my specification showing illustrations facing the page to which the text applied. The book went through several printings and was widely used as a text in high schools and colleges.

My situation, frustration, and strain of the GHQ experience brought on a recurrence of the sciatica caused by the crash in the West Virginia mountains. When the discomfort became so severe, I could not sit on my parachute for long, Flight Surgeon Andy Smith took me off flying status and put me in the Brooks Hospital for treatment. Colonel Marrieta, the chief surgeon, was very kind and the staff gave me the best of attention, but I could note little improvement. The inactivity seemed to be detrimental.

Hospital tedium was enlivened by my acquaintance with Colonel "Tommy" Tompkins, of 7th Cavalry fame. His yarns, liberally spiced with Cavalry adjectives, were typical of his rough and ready personality. He had no patience with the new arm signals for controlling the troops. He told me: "once when I stood up in the stirrups to scratch my derrière, the whole Regiment took off in all directions to seek cover!"

Tommy made a bet with me one day that he would get out of there before I did. I did not comprehend what he meant until a little later when he died of cancer.

Retirement after thirty years of active service became an attractive alternative to the prospect of continuing a frustrating, active military career. My obligations to the military establishment could be considered fully paid. As a civilian, the fight for airpower could be carried on more objectively. We had done much at GHQ to establish the principles advocated by Mitchell. In addition, we provided the instrument to make those principles a reality—the B-17 bomber. Apparently, no one in the air arm cared to risk their career by actively picking up the cudgels where we had been forced to drop them.

A retirement board was called at my request on 27 January 1939. When I appeared before the board, they informed me I was to be retired for physical disability in addition to length of service. That arbitrary action indicated I was being cast into limbo, where I would not be a disturbing factor any longer. After some argument over the situation, I agreed to the terms and was retired on 31 March 1939. I deeply resented the inference that I was some sort of a nut because of my persistent advocacy of airpower, and an autonomous Air Force—sometimes it is necessary to violently rock the boat to dislodge the rats.

I took comfort from the experience of Lincoln—failed in business in 1831; defeated for the legislature in 1833; failed in business again in 1833; suffered a nervous breakdown in 1836; defeated for speaker in 1838; defeated for elector in 1840; defeated for Congress in 1843; defeated for Congress again in 1848; defeated for the Senate in 1855; defeated for vice president in 1856; defeated for the Senate in 1858; then finally, was elected President of the United States in 1860!

We lost no time in checking out of the Fort Sam Houston environment. I was eager to get at the program I had in mind to influence public opinion on the subject of airpower. But first, I would have to regain the strength wasted away in the hospital. The ideal place was our home on the Severn near Annapolis, Maryland.

The drive home with father was a delightful excursion. When we arrived there, our house perched high on the bluff above Clements Bay looked like a mansion to us. Early spring was in the air, trees with their naked arms uplifted to the dull sky, and shadbushes not yet showing white did not dampen the joy of homecoming. Raccoons, squirrels, and chipmunks paid us little heed after an appraising glance. Our happiness was shaded when we learned General Andrews had been demoted to colonel, banished to San Antonio, and now occupied the chair vacated by General Mitchell and me!

Andrews did not remain long in the Fort Sam Houston doghouse. It would never do to have a third advocate of airpower remain in the Mitchell hot seat. The ridiculous situation the War Department had created was corrected partially by General Marshall when he returned Colonel Andrews to the general staff with the rank of brigadier general.

Father remained with us until the weather cleared—then he left for a visit with Barclay at Kansas City. We closed the house at Epping Forest and went down to Newport News to be with Hugh and Sallie, while I finished building the ketch over at Langley Field.

I did all the work on the forty-foot boat without assistance—other than levers and tacks. Several months of manual labor proved to be excellent therapy. My Navy experience made it possible for me to set up the 12 x12 keel, fit the preformed oak ribs in place, force the planking to proper curvature with close fitting seams, and prepare for launching.

The boat was launched successfully in the presence of a skeptical crowd of Airmen, one of whom broke a lightbulb on the bow to christen it “the *Horizon*.” After fitting out alongside the dock, we were ready for the voyage to Annapolis and our home on the Severn. We had a stormy trip up the bay. The boat functioned in excellent fashion. The crew (Hazel) became seasick but managed to feed the skipper (me) on time. Halfway up the bay, the storm became so severe we had to reduce sail to job and reefed mizzen. We made so little progress, we decided to anchor for the night below the bluff at Governor’s Plum. The oystermen left the anchorage when darkness fell rather than risk being driven on shore; without power, we had to remain.

I had included an extra heavy anchor and a two-inch cable when fitting out the boat. The storm increased rapidly to near gale force, putting such a strain on the cable, it was like an iron bar. Now and then, there would be a jerk when the anchor dragged. I dreaded the prospect of breaking up on the beach. The howl of wind in the rigging, crashing thunder, rain, and salt-water leaks in the cabin structure, worried me and frightened Hazel. She never cried out, but with each jolt she looked at me wide-eyed with alarm clutching her purse. I never understood why a woman’s purse is her most valued possession in an emergency.

By daybreak, the storm had subsided, wind was in the west, and the oystermen came back to the anchorage; one sang out to his mate in passing, “the plutocrats is still floating.”

We had some difficulty in breaking the anchor loose; it had buried itself deeply during the storm. We made rapid progress from thereon under full sail in the westerly breeze that brought us off Annapolis in the early afternoon. The white stone buildings of the academy were a welcome sight.

We had tied up at our dock, but in a short time the roar of aircraft engines reverberating throughout the forest and the flash of a B-17 at the treetops let us know Bob Olds had monitored our voyage and found us safely home.

That spring was a rough one. We had our doubts about the climate and considered selling for a move to Florida. However, by May the dogwood was out, and the trees were leafing, the geese were honking, the fish were running, the woods were alive with birds, and the beasts going about their business; we changed our minds.

My business picked up also because of more and more outlets for the publicity effort I was making on behalf of airpower. In addition, the Chinese Government, through my friend Claire Chennault no doubt, asked me to establish an Air Staff College at Cheng-Tu, which I declined.

Chapter 15

Sperry Gyro Company

1940–1943

An invitation from the Sperry Gyroscope Company of New York was of practical interest. The prospect of commuting between Washington and New York did not appeal to me, but I felt obliged to contribute what I could to the development of our airpower.

My work with the Sperry Company was most interesting and constructive. From experience, I knew what the Air Corps required, and similarly, what the coast artillery needed. I was a welcomed addition to the research staff at Garden City.

Considerable travel to various parts of the country and abroad was involved to get first-hand knowledge concerning technical developments in the European War. I accepted a company invitation to take Hazel along for a visit with her cousins, the John Crummey family, while I consulted with Mr. Crummey, chairman of the board of Food Machinery Company on matters pertinent to their production of amphibious tanks. In the northwest, we visited Dace and father at Portland, Oregon. Dace, an engineer on the Bonneville Dam, had designed and installed the fish ladders that enabled the salmon to get past the dam to their spawning streams. We found father suffering with arthritis and very lonely.

Back in Washington again, I found General Andrews on duty with the general staff. He told me some amusing things that happened while he was at San Antonio, and how he had finally been sprung from that doghouse. I enjoyed his genial company immensely and brought him up to date on my activities with the Sperry Company. He was pleased with my situation but expressed regret I was not in uniform so I could accompany him to the Canal Zone, where he was to take command.

I wrote many articles for leading magazines about *airpower* and the need for a separate air arm, co-equal with the Army and Navy, in a Department of National Defense. Editorial comment throughout the country served to give this effort wide public support, and bitter denunciation by the Navy. My contact with the lower echelons in the Navy clearly indicated the opposition was by no means unanimous.

The weather became so cold and uncomfortable in December, we closed the house at Annapolis. While the weather in Washington was nothing to cheer about, we enjoyed our visits with Hazel's sister, Daphne, and General Witsell, at their nearby residence.

My work with the Sperry Company in 1941 involved many conferences with British representatives in this country and abroad and with our own military services. The Air Corps was eager to accept our efforts in its behalf, but the rest of the Army was prone to cling to old familiar equipment. The Navy was so highly secretive, we had difficulty giving it the benefit of our research.

General Andrews, in command at Panama, did his best to have me recalled to active duty and sent down to him. General Arnold backed him up in this effort to no avail. The War Department was adamant in not recalling me for alleged physical reasons, completely ignoring the fact I was retired on thirty years' service at my own request. The injury I sustained in the 1923 crash in the West Virginia mountains was a secondary consideration.

I took a complete physical examination at Walter Reed Hospital to demonstrate my fitness and was declared 100 percent capable of full active service; still that meant nothing. General Andrews told me he was satisfied that some other influence was blocking my return to duty. Eventually, I discovered it was not all War Department opposition.

General Andrews was not to be denied. He asked Sperry to send me down to Panama as their representative and they did. This enabled me to give Andrews first-hand information on current and future devices available to him, but unobtainable through normal channels.

General Andrews gave me a desk in his headquarters and a list of problems confronting him for defense of the Canal locks. As in former times, I gave him an uninhibited report on each item, which he could use or discard as he saw fit. An occasional chuckle from his office next door indicated we were in tune again.

From Panama, my mission required a swing around Central America, Columbia, and Venezuela, alert to evidence of German activities. On my return to Washington, my reports to the Commerce and State Departments were commented upon as being most useful, since they reflected both a military and a civilian point of view.

In October, the Sperry Company decided to send Willis, Viehler, and me to England to coordinate the British application of the klystron device to their anti-aircraft defenses.

This turned out to be a hazardous journey. We were loaded along with five others in the bomb bay of a B-24; we sat on two benches in the dark and watched the drip-drip-drip of gasoline from a leaky overhead tank.

Twice, we got as far as Montreal and Gander, but were turned back by mechanical trouble and severe icing conditions over the Atlantic. My guardian angel worked overtime on that! Some aircraft that went on disappeared.

We finally made it across to Lisbon by Pan American Airways from the southern route. We were booked out on a Douglas DC-2 that was operated by the Dutch for the long, overwater flight to England. Only six of these airplanes remained in service, and these were shot down later by the Germans. We had to take evasive action among the clouds to escape the same fate.

We found the British most cooperative and grateful for our interest. Willis pursued contacts with those most interested in radio and radar, while I visited the anti-aircraft installations on the invasion coast near Swansea. Viehler devoted his time to ordnance matters.

The foul British weather and the sulphuric fumes pouring out of thousands of chimney pots combined to be more of a nuisance than the nightly bombings. I could understand why the British dispersed in years past, to establish an Empire in remote corners of the earth.

The United States military mission in London proved to be of great help. Cummings, Royce, Brett, and others knew their way around. They saved us much time and effort making contact with the British authorities.

I found the Park Lane Hotel near the Marble Arch comfortable, except for the bathroom; the only heat in there was furnished by tepid water circulated in the towel rack. The food? The less said, the better.

Our return flight to Lisbon was uneventful except for the time we had to dodge from cloud to cloud, to escape from a pair of Focke-Wulf German fighter aircraft. In Estoril, we put up at the Palacio hotel while waiting for transportation back to the United States. Doctors Urey, Begram, and Bound joined us on a visit to the Palace of the Kings.

We celebrated the 20th of November as Thanksgiving Day with an old-fashioned turkey dinner. The chef knew how to prepare it. Dinner created something of a stir among the Nazi spies in the dining room; they were annoyed by the Americans having so much fun. Among the eleven guests were Doctors Urey, Pegram, Bound, Saint John of Curtis, several military observers en route to England, and

Colonel Wolfinbarger, a military attaché from Berlin. Wolfinbarger was formerly with me in the Second Bombardment Group; he warned me to hurry home because he was certain we would be involved in the war very soon.

On the 26th of November, we were booked out of Lisbon on a Pan-American Clipper, by way of the Azores. The week after returning was devoted to preparation of reports in Washington, New York, and Dayton. The total lack of concern that we might be at war very soon was hard to comprehend.

On the 7th of December 1941, the country was shocked by the news that the Navy on a holiday in Pearl Harbor, had been sunk at the dock! No excuses about a sneak attack could obscure the fact that an efficient Japanese Navy had decisively defeated the US Navy. The Pacific Ocean was wide open now to the Japanese and they were quick to exploit the opportunity. Many months and many more lives were lost before Army airpower, in concert with ground arms, regained control of the Pacific.

Generals Arnold and Andrews and Secretary Lovett increased their efforts to get me back into uniform. When it became evident that powerful influences were against my return, General Andrews asked Sperry to send me down to him again in Panama to assist in coordinating their technical facilities with his defenses in the Caribbean Theatre of war.

General Andrews paid me the compliment of telling Sperry that the service I had arranged previously was better than the support he received from the Army or Navy.

On my return to Washington, I called on the new chief of Air Services, General Weaver. He was discouraged. In his opinion, the new setup of a ground army, an air army, and a service army was a mess. He said he could find no intelligent, coordinated, plan for prosecution of the air war, much dashing about, but no apparent results. He agreed with my effort to establish a separate air arm, co-equal with the Army and the Navy, in a Department of National Defense as the only logical way to fight a war.

The 16th of February was a sad day for us. Father died while visiting Dace in Portland, Oregon, at the age of 81. His was a long and pleasant life in the era when enterprise and freedom of choice were untainted virtues. I met Dace in Kansas City for the interment alongside of mother.

The rest of February 1942 was a continuous round of high-pressure conferences at Dayton, Detroit, Washington, New York, and other parts of the country where Sperry products were involved. I was appalled at the lack of cooperation between the Army and Navy. Each appeared to be intent on preserving an empire. Typical of this attitude was refusal by the coast artillery and the Ordnance Department to provide General Andrews with the computing gunsight used on the B-17 bombers. The type of sight used by the coast artillery against high-flying aircraft was worthless for defense of the canal locks against low-flying aircraft.

I increased my publicity efforts by writing for *Mercury Magazine, Life, Fortune*, and the newspapers. Before long, editorial comment became insistent that Congress take action to correct their neglect of airpower and curb the obstructive attitude of the Navy about unity of command.

My October article in *Mercury* created considerable interest here and in England. In "*We Will Bomb by Daylight,*" I advocated augmenting the British night bombing of areas with daylight precision bombing of pinpointed munition and transportation facilities. I maintained that the B-17, properly armed, could defend itself in daylight with reasonable losses, in formations such as those we had developed in the Second Bombardment Group. Editors of the *Mercury*, Lawrence Spivak and Eugene Lyons, were alert to the significance of my thesis and published my articles without question.

Mr. Gilmer, president of Sperry Company, sent for me on the 24th of July. He told me Tom Morgan, a former Navy man and head of the Sperry Corporation, had been notified by the Navy department to stop my literary activities. I told him I would not give up my efforts to reveal the dangerous objective of the Navy to grab the strategic mission away from the Air Corps, and to restrict our activities to coast defense. Mr. Gilmore, also from the Navy, agreed with me and admired my forthright stand.

I stepped up my articles for the *Mercury* and other publications at this turn of events and collaborated with Mr. Huie, one of the editors, in production of a book to be titled: *The Fight for Air Power*. I made my files available and assisted in the writing and accepted no remuneration for this work other than expenses for travel.

While chief of field service of the Air Corps, I was called as a witness on the 3rd of August before a Senate Committee on air cargo and transport to relate my experience with the air delivery system I had established. Senator Lee questioned me concerning my published articles. This gave me the opportunity to acquaint the committee with the facts of airpower. I made it clear, the Army and Navy should have their own air services, but that such was not airpower. I stressed the vital need for an autonomous Air Force.

My publicity activities generated sufficient interest for the Getts Lecture Agency to invite me to join their lecture circuit. I agreed, provided I was not subjected to censorship. I would deliver my lectures as I saw fit and then let the lightning strike; they agreed.

On the 18th of August, at the insistence of the Navy department, I was fired from the Sperry Company. Mr. Lea and Mr. Gilmore were distressed and assured me my services had been invaluable to them. I accepted the situation with good grace and assured them I would not give up despite any opposition the Navy might devise.

At home in Epping Forest, I received a telephone message on the 10th of October to report to the Office of the Secretary of War. When I walked into the office, I was surprised to see General McNarney with a smile on his face as he greeted me. At last, I thought I was to be returned to active duty.

But not so! The smile quickly faded; he proceeded to tell me the secretary had instructed him to give me a verbal reprimand for causing embarrassment to the War Department, and to the Navy Department, by my public utterances. Now, he would like to ask me for my word that I would cease such activities. I replied: "I will not."

McNarney then said: "It becomes my duty to give you the following order, you are directed to refrain from all public written and oral comment on the conduct of the war and on questions relating to the tactical use and organizational relationships of the armed forces of the United States and its allies."

The secretary's order clearly revealed other than War Department concern. Obviously, I would be court martialed if I wrote another article or delivered another lecture. I must be silenced for such unheard-of defiance of the establishment.

I called the Getts Agency to the attention of my order. Their reaction was to cancel appearances where they could obtain a release and to demand that the secretary permit me to talk where they could not. The secretary replied: "I could talk within the restrictions of his order." It looked like I was trapped at last!

I began to wonder whether I had become obsessed with a fixed idea or was plain stupid. No one ever got away with defiance of the

War Department, let alone the Navy to boot. Somehow, I would have to devise a means to carry on with this matter.

Cancellation of my appearance on a program in Milwaukee created a storm of protest. Getts, however, insisted on fulfilling his contract. A large audience greeted me at town hall. When my turn came at the podium, I had not the slightest idea what to say and remain within the secretary's restrictions. Apology was unthinkable. Then recollection that my orders made no mention of our enemy, gave me an idea: I ad-libbed the same speech, but from the point of view of Hitler! I was so elated over the reaction of the audience I almost stuck my head into the noose of a courts-martial by criticizing the military establishment.

My final talk was at the Steel Founders Convention in White Sulphur Springs on the 19th of October. As speaker of the evening, that audience was a tough one to face. After a few moments of my talk, I was relieved to see table forks laid aside, conversation cease, and the audience rise and applaud. Mr. Baker, the Chairman, told me I should feel flattered and that public interest in my efforts on behalf of adequate air defense was widespread.

Hazel met me, wide-eyed with worry, when I returned to our Washington apartment; she had a message for me to report at the Office of the Secretary of War at once. At the Pentagon, I fully expected to be placed under arrest to face courts-martial. When I entered the secretary's office, General McNarney was waiting for me. He informed me that the secretary, after considerable discussion with other parties, had decided to return me to active duty if I so desired.

This unexpected development left me stammering my acceptance. McNarney led me into an adjoining office and turned me over to General Arnold with the comment: "Knerr is your problem now." I wondered whether I had won a contest of wills or had been involved in a compromise. In any event, I had attained my objective of getting back into uniform despite the most determined opposition. Arnold welcomed me in friendly fashion and praised my forthright stand as a protagonist for airpower.

General Arnold told me that the unsatisfactory state of supply and maintenance was his greatest worry. He said he wanted me to report to General McMullen at the service command headquarters at the National Airport, where I would not be assigned to any specific duty, but I was to quietly observe the operations and render a report within a reasonable time.

In parting, General Arnold informed me that he had made a deal with General Andrews, if the latter found himself in a real need for me, he would release me to him, but that for the present I was his. I felt like useful baggage—somewhat shopworn.

Arnold was a pleasant, easy-going, person except when riled. He was an effective head for the air arm in dealing with politicians. Big, handsome, with a smile molded in his face, he was at ease in any company. I considered him and General Andrews to be our outstanding leaders when such were most needed. Of the two, I considered Arnold to be the smarter but Andrews the more intelligent. To have had the confidence of these two men is a greatly treasured recollection.

When I returned to our apartment, I found Hazel chewing her fingernails; although joyful over the good news, she was apprehensive over the prospect of my resuming active flying. After I assured her that I had no intention of doing so, relief was expressed in tears.

My observations at Gravelly Point revealed half of our aircraft grounded for lack of parts. A tour of our bases and depots convinced me the trouble lay with General Arnold himself.

War production had become too vast an operation for him to have his finger in every pie. Time-consuming staff coordination under his watchful eye in Washington was not working. I was sure my report would not be welcomed; however, he had asked for it, so I let him have the facts as I saw them. To my surprise, he accepted the report at face value, closed out the materiel office at the national airport, and concentrated the logistic function in General Frank's service command at Dayton, Ohio.

When General Frank returned from an inspection trip in England, I submitted my reorganization plan to a conference of general officers, including General Robert Wood on loan from Sears Roebuck. The plan was accepted without comment, except by General Wood, who stated: "The plan was an excellent solution of a difficult problem."

Revision of the logistic command organization kept me busy for the next few weeks. General Frank was most pleased with the statistical display laid out on the wall of his operations office in colored ribbon; he could sit at ease before it and grasp the status of his command at a glance.

Rapid expansion of military manpower carried my name along with the tide and I was promoted to colonel. When the list reached the Office of the Secretary of War for approval, my name was scratched. The personnel office had not considered such a possibility when it published their list—someone in the secretary's office must have been upset when he realized nothing could be done about it without undue publicity.

Bradford Huie, back in Washington, was in trouble with our book *The Fight for Air Power*, on which we had spent much time and effort. The War Department insisted my name and material be deleted—that, of course, would destroy the book. Huie decided to go ahead with my contributions in quotes as coming from an unidentified source. There was nothing the War or Navy Departments could do about that; however, the frustration of the Navy Department expressed itself by demands that the principal hotels remove the book from their displays. I found it difficult to understand how top management of our national defense could be so petty. Now that I was no longer in a retired status, I could not comment.

Summit conferences of the allies finally arrived at a decision to mount the invasion of the continent from England, instead of the Mediterranean, as Churchill had suggested on other occasions.

The war in Africa and General Eaker's activities in European theatre clearly indicated an air decision would have to be gained before an invasion of the continent could succeed.

An overall supreme-commanded force with the background of air experience made sense to the Allied powers. Early in February 1943, two Theatres of Operation were established, the Mediterranean and the European. General Eisenhower remained in command of the Mediterranean theatre and on 4 February 1943, General Andrews was given the European Theatre Command as supreme commander of Allied forces in Europe.

At last, Andrews had emerged from isolation in the Mideast where he had been safely tucked away. I had received a letter from General Andrews shortly before he left Cairo which said he had asked for me to be sent over to him. Arnold replied I could not be spared from an important project at that time. What that important project might be was not clear since the reorganization of the service command was finished.

Late in April 1943, orders arrived for me to proceed to London and report to General Andrews for duty not to exceed two months—that was a surprise. Apparently, Arnold had decided to let me out on a leash. This turn of events elated and frightened me. Andrews would undoubtedly ask me to be his chief of staff again, and I wondered whether I could measure up to the awesome responsibilities involved.

Disillusionment met me in Washington when I found myself a member of Air Inspector Follet Bradley's party to make an inspection of air installations in England—the "duty with Andrews" apparently was administrative camouflage. However, to give me a better status, I was designated the deputy commander of the materiel command by order dated 23 April 1943.

On the 4th of May, I met Generals Bradley and Eaker at the Washington Airport for the transatlantic trip. The flight went up the seaboard in Eaker's C-54 to Gander, Newfoundland, mostly over the clouds until we approached the rugged, granite terrain of the north country where lakes and rivers were frozen over and the glacier-gouged hills were still powdered with snow. I had plenty of time to consider the situation awaiting me in London. The last time I had seen Andrews, I was there as a civilian in 1941 representing the Sperry Company. At that time, he seemed to be unhappy and said he was still hopeful I could get back into uniform.

One of the passengers on the C-54 was a seedy individual to whom no one paid any attention. On the way to the mess hall, Bradley asked him: "What is your racket?" "I am Bernhard, the Crown Prince of the Netherlands," he replied, apologetically. "I know what yours is." At that remark, both laughed and went arm in arm to the mess for breakfast.

From Gander, we passed over broken icefields and small bergs drifting down from Greenland. In due time, the bright green of Ireland showed through breaks in the clouds as we approached Prestwick, Scotland, where upon landing, we were met by a group of officers assembled there to receive Eaker. After greetings, an aide informed us General Andrews had been killed that morning while landing in Iceland. There was some doubt whether he stopped there on his way to Washington or to inspect our air facilities in Iceland.

Words cannot convey the horror of that moment. The bright promise of serving the new commander of Allied forces in European theatre as his chief of staff again died with him. I had never known anyone quite like Andrews—kind, patient, and unperturbed under stress; willing to yield in a minor dispute, but adamant on major issues; easy-going, yet a firm disciplinarian. Now, he was gone. Our country had lost a leader when such as he was desperately needed; he would have been the catalyst capable of resolving conflicting objectives among our allies without compromising our own interests.

The passing of Andrews bore heavily on me, particularly since he had left a message, I was to be available to him immediately on his return. This indicated he had something in mind that would change my assignment, and Iceland was not his destination. His diary would have determined this point. The diary was forwarded to the adjutant general from London, but mysteriously disappeared when General Eisenhower succeeded to the supreme command.

Andrews and Churchill shake hands. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Gen Jacob Devers, US Army, succeeded General Andrews on a temporary basis, pending outcome of further negotiations among the Allies for selection of a supreme commander of Allied forces. General Marshall wanted the command, but President Roosevelt would not agree; the British wanted Montgomery; Eisenhower did not ask for it but was selected for political and military reasons.

General Eaker invited General Bradley and me to stay at the country estate the British had provided at Castle Coombe; his quick smile and ready wit did much to get me back to normal. Our discussions on daylight bombing, and my publicity activities concerning airpower directed at enemy logistic resources, had his firm approval. The beautifully kept bomb-pocked grounds and quiet surroundings belied the contrails etched across the blue sky.

Assistant secretary of war for air, Robert Lovett, arrived at Castle Coombe while we were there. The secretary told us I was out of the War Department's doghouse, because of my excellent performance of duty. When General Eaker called attention to the considerable risk and personal sacrifice I had faced during my publicity campaign, the secretary commented that it had been recognized as of the highest value to the cause of airpower. He also noted my advancement to general officer grade was assured if the Navy-oriented White House did not interfere.

When General Bradley arrived, he arranged a meeting of Air Force commanders and staff officers to acquaint them with the requirements of our mission. Among those present were: Eaker, Miller, Hunter, Longfellow, Candee, Chauncey, and others. Our party was divided into committees and assigned to bases and headquarters of the American and British establishments to determine the effectiveness of the American support.

Everywhere we went, I received a sincere personal welcome, at times embarrassing. At social functions, where international officials were present, I found myself, a colonel, accorded the courtesies of a general officer. I soon learned my magazine articles and the book, *The Fight for Air Power*, had struck a resonant note in England.

On one occasion, I was seated at the head table of a banquet in honor of pilots who were to receive the British Distinguished Flying Cross. Among them were Americans Armstrong and Wallace, former members of the Second Bombardment Group. During the speeches, Air Marshal Harris called on me to stand and be presented as the co-author of the book, *The Fight for Air Power*—a single-handed effort of far-reaching influence. His comments reminded me of, "A prophet is not without honor, save in his own country."

These indicants are presented as indicative of the merit in my determined effort to have airpower recognized as an essential element in national policy as well as defense, fully understood in England, but ridiculed in our own military establishments.

A general air of waiting for something to happen seemed to prevail wherever we went—the initiative was with the Germans and we were suffering the lot of the defensive. We looked forward to the possibility of extending our inspection to the Mediterranean, where the action was heavy.

Our trips to England required travel by automobile. The feeling we were going to crash into oncoming vehicles on the right side of the road was ever with me. The tidy fields and villages and carefully tended gardens, all contrasted sharply with our trashy landscape. Long trips on the narrow hawthorne-lined roads were relieved by side trips to historic places that brought to mind visions of bowmen and armored knights sweeping across this same ground in kingly combat; while overhead, the rumble of yet another contest reminded us how little the human animal had changed.

My inquiries revealed much was yet to be done to shorten the time lapse between need for corrective action and accomplishment. Resistance to change on the part of the British accounted for much of the lost motion. At times, their casualness exasperated me until I realized it was not stupidity as some of our critics have said; it was a lively sense of humor. I found the American counterpart of the Texas laugh to be a quiet understatement or noiseless chuckle.

We completed our survey of the United States and British bases in England and Ireland by the end of May 1943. The report for General Arnold went into considerable operational and logistic detail with the objective of tying together the many scattered activities rapidly coming into being in our all-out support of the British.

Our recommendations included activating heavy bombardment Air Divisions and making the VIII Air Service Commander responsible for technical control of all elements of the Eighth Air Force's logistic resources. We recommended a Strategic Air Force of 255,000 men and a Tactical Air Force of 485,543. General Eaker forwarded our report with his strong endorsement.

We took leave of bomb-harassed England on the 29th of May for a night flight to Africa, where we were directed to make a similar survey of our installations. The snow-capped Atlas Mountains, with the approach of daylight on the eastern horizon, resolved into an area of pink and white blocks that was Marrakech, the so-called Jewel of Africa. Similarity to a jewel was dispelled when we arrived at our hotel on the public plaza: there were people, people, noisy people everywhere in all sorts of unkempt costumes, haggling over produce, begging, doing stunts for the crowd, with donkeys and camels in smelly association. I was disappointed to find my Bible stories so unrealistic.

We left for Algiers on the 31st of May—the start of my 57th year. The terrain below, for the first hour or so, looked like Texas and Arizona, followed by a high plateau, green with wooded valleys like California, and finally along the Mediterranean Coast to Oran and Algiers. The airdrome at Algiers, dusty and crowded with aircraft of all nationalities except German and Italian—was alive with war activities.

At the Aletti hotel all knowledge of reservations for us was denied. The hotel was a British facility, and as such, they took precedence in room assignments; as they came and went, I had a feeling we were regarded as colonials fighting the war for them.

General Bradley finally got a room. When he disappeared up the open cage elevator, I realized there was also a difference between colonels and generals. After another hour, huddled with our duffle in the lobby, the colonels were given rooms to share on the harbor side where bomb damage was most likely to occur.

The view from our rooms was worth the potential hazard. The harbor across the street below was crowded with shipping of all kinds, unloading in haste before a submarine could blow it up as had happened a short time before. The broad plaza along the waterfront was a surging tide of native and British soldiers; roistering, singing, and shouting, as soldiers have done for thousands of years along this shore.

From the 1st to the 15th of July, while the invasion of Sicily was in progress, we visited installations of the service command from Dakar to Tripoli and back again. Orderly confusion in that active theatre of operations gave us ample material for our report.

Logistic problems encountered in Africa were quite different from those in England: great distances, lack of transportation, poor communications, an enemy on the ground as well as in the air; all combined to tax the stamina and ingenuity of the service commanders, Barton, Beverly, and Dunn.

We found much of interest in our travels in addition to our official duties. At Tripoli we saw the sinister pirate fort the Marines sing about so fervently; over the Kasserine Pass, we saw the swirling patterns in the sand made by Patton's and Rommel's tanks; many wrecked cars, trucks, and tanks in roadside ditches, and open country reminders of the contests that have raged in this area for thousands of years. The sights, sounds, and smells of this land have changed but little from then till now.

Beyond Tripoli, the deep blue of the Mediterranean contrasted sharply with the gritty desert below. Even at altitude grit of the desert could be felt, so fine and abrasive as to be a major problem for men and machines alike; you ate it, breathed it, and ground your teeth on it.

We left Algiers on the 15th of June 1943 and reassembled at Marrakech for the return flight to Washington. Secretary Lovett rejoined us there with the news that General Bradley had suffered a heart attack at Constantine and had been left in a hospital. The task of assembling a mass of data from our committees and writing the report for submission to General Arnold would now be mine. Arnold's impatience with long-winded reports meant this one would have to be condensed to a few pages of conclusions and recommendations, with details attached as exhibits, or he would explode.

Out of Marrakech we climbed rapidly over the Atlas Mountains and across a dead world of barren sand, colossal and appalling. The Sahara, 10,000 feet below, was invisible. There was no horizon. We seemed to be suspended, motionless, in a brilliant void of dust. High in a brazen sky, despite the altitude and blazing sun, the C-54 was superheated to an uncomfortable degree.

After hours of discomfort a dark ribbon appeared through the haze and took on the shape of a green fringe, knitted between desert and ocean; we had arrived over Dakar. We spent several hours on that hot, dusty, airdrome—being checked out for the trans-Atlantic flight late that evening. Despite the understuffed seats, a brilliant moon, smooth air, and the contented drone of aircraft engines induced restful sleep.

At daybreak, we saw the South American continent ahead like a green carpet spread across the water. When we landed and emerged from the airplane the fragrant air, drifting across the airdrome from the lush forest, greeted us in pleasant contrast with the gritty, sunburned atmosphere we had been breathing for the past weeks. That pleasant change was terminated when the Brazilian officials with flit guns sprayed us and the airplane from stem to stern.

An American breakfast, with a profusion of fruit and vegetables safe to eat, was a preview of home. This facility had been established here when the northern route of the transport command proved to be too hazardous during the winter months—as I well knew from previous experience.

Soon after breakfast, we left Belem for Puerto Rico, passing over the mouths of the Amazon on the way, a vast area of water and jungle relieved now and then by sugarcane plantations that encroached into the unlimited forest.

We entered a stormy area as we approached the south coast of Puerto Rico. When we broke through the clouds, we were confronted with a densely wooded mountainside still covered with wisps of drifting cloud. When we swung into our landing pattern, there ahead of us linking land and sea was a perfect double rainbow. The elements seemed to have joined in concert to welcome us home.

Charles Fitzgerald, our neighbor at Epping Forest, met us at the Borinquen Airfield and diplomatically offered a bath and change of underwear at his quarters—apparently, Africa was still with me.

The flight from Puerto Rico to Washington was uneventful. At the national airport, I found John Ball about to leave for Dayton in his Courier B-26. I thumbed a ride and piloted the airplane back to Wright Field.

General Frank and Robert Wood met me at Patterson with the news they were having dinner with us in our newly painted quarters. I told Hazel, I duly appreciated the thought, but I would bet we would move within a month—that had always happened when we painted.

I made a quick trip to Washington the next day to report to General Arnold. With a rough draft of my report, to my great relief, he was highly pleased and said it was just what he needed to convince a wavering War Department of his program to build up the Air Forces in Europe.

After reading the paper, Arnold said I should go back to England and put the substance of the report into effect. I demurred on the grounds that a general officer would be required in dealing with the British. He briskly told me to get back to Dayton and pack up—the paint brush had prevailed.

Before leaving Washington, General Echols told me that Arnold had demanded I be made a brigadier general and sent back to Europe to put the Bradley Plan into effect—(as it was officially known). He also said Secretary Lovett had placed the nomination on Secretary

Stimson's desk with a notation to see him if there was any adverse action. THE MILLS OF THE GODS. . . .

I was pleasantly surprised on the 1st of July 1943 by the announcement of my promotion to the grade of brigadier general. Many friends expressed their sincere pleasure at this turn of events. Hazel was as pleased as a fond mama who had succeeded in marrying off a homely child. I felt like a reluctant bride. Few outside the military service realize what a chasm separates the colonels from the generals. Fortunate, indeed, are the colonels who do not feel slighted or the generals who do not feel eminent.

On the 8th of July, I received orders for duty to the United Kingdom as deputy commander of the VIII Air Force Service Command of the Eighth Air Force. General Arnold told me, in no uncertain terms and despite Army and Navy opposition, he expected to be justified in getting me back on active duty. My immediate objective, he said, was to implement the Bradley Plan since that was to be the basis for his buildup of the Air Force. I wondered whether it would turn out that he was sending a boy to do a staff man's work.

Hugh Jr. spent a few days of leave with us from the Portsmouth Navy Yard where he was outfitting and testing submarines. He told us of one occasion, while they were doing dive tests, an airplane shadowed them on the supposition they were the German submarine known to be lurking in that vicinity. Every time they came up, the airplane would make a run at them. Hugh learned later, Captain E. Witsell, his cousin, was in the airplane trying to do them in.

General Eaker, in Washington at the time, invited me to fly across with him in his C-54. The flight across the North Atlantic was interesting. By the time we left Newfoundland, it was well after sundown. An occasional berg dotted the ocean between there and Iceland.

In England, I was assigned to a newly built residence at 54 Inner Park Road, Wimbledon Parkside, near Kingston, a suburb of London. Accommodations for general officers were provided by the British government as part of lend-lease program. The house was like our quarters at Patterson Field, which made me feel at home despite the miserable weather.

I invited the headquarters personnel officer, Col Kenneth Bitting, to join me. The colonel had been my image of Old King Cole and a gentleman Falstaff combined, while on duty at Dayton. He was solid, jovial, with a laugh that came up from his heels. He was a fine housemate or dugout mate when the buzz-bombs were busy.

At a conference with General Eaker and staff, I was designated the A-4 (supply and maintenance), and deputy commander of the VIII Air Force Service Command. This was the arrangement General Arnold authorized after I had impressed on him the necessity to give undivided responsibility and authority to me as General Eaker's logistic commander. The lack of such authority was basic to the deficiencies we uncovered on the Bradley Survey.

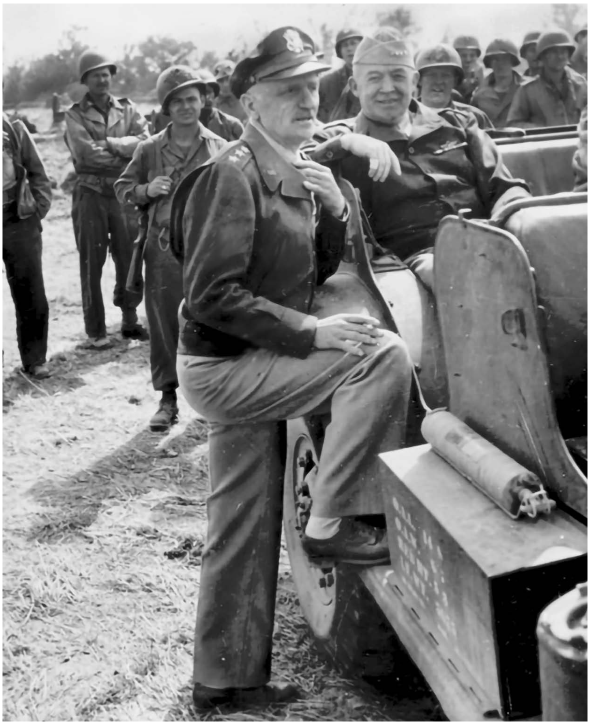
I lost no time in making use of my means for action. I informed the British that their cozy relationship between aircraft manufacturing and maintenance would have to be replaced with American methods under my control at the Burtonwood Depot where tea hutches cluttered up much of the floor space. Many tea breaks accounted for hours of lost production. This unheard-of action resulted in a demand by the trade unions to eliminate this, "wild Indian from the United States." With the generous support of General Eaker and visions of General Arnold in Washington, our program was accepted and amply supported by the British.

General Arnold showed up unexpectedly at headquarters on the 2nd of September. He said he was there to see how I was carrying out his instructions. I asked him to come along with me to Burtonwood and see for himself.

On the way to Burtonwood, I filled General Arnold in on our activities and programs. I was reluctant to tell him that his plan for sending trained depot units over to us was not working. Better results could be obtained if he would send overwarm bodies for us to train on the job, as we were currently doing. The general was miffed at first, but he agreed after he saw the magnitude of our operation and the high morale of our men.

A rapid buildup of our Air Forces in men and aircraft occurred in the fall of 1943; the backlog of repairable equipment was reduced to the daily influx of battle-damaged airplanes. Additional area depots were established near the operating units. The efficiency of subdepots at the distant stations gained the confidence of their commanders, and through better accounting procedures, we were able to begin returning surplus supplies and equipment. By the end of the year, we were providing more aircraft ready to fly than crews to man them.

These accomplishments were possible only because we were able to get a few capable officers whom we could delegate authority and responsibility to carry out my directives without being told how—among them were Colonels Ott and "Buddy" Arnold, at the Burtonwood complex.[1]



Left to right, Spaatz and Arnold, England, 1944. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

I never liked the staff system of command; it is a waste of time and too often a refuge for incompetents. Undivided responsibility and authority can be fixed at every level in the deputy system. The next higher or lower commander can put his finger on the individual due for praise or censure, without tracing the buck through the pinball mechanism of a staff.

Enemy bombing activities decreased by the end of year; however, enough bombers still sought our headquarters to require us to seek the safety of the slit trenches occasionally. One expert bombardier dropped a two-thousand-pound bomb within a few yards of Eaker's location—it failed to go off but kept us wondering.

Our presence in social-minded England entailed considerable entertaining of, and being entertained by, the British and foreign governments in exile. These activities were time-consuming but necessary under the circumstances. My handsome aide, Capt M. A. Kriendler, handled these matters with skill and finesse, much to my relief.

A welcomed break in the war routine occurred when a selected group of officers was invited to a reception by the king and queen. I was fortunate to be included among those honored. At the reception, King George and Queen Elizabeth greeted each of us with a pleasant comment in the richly furnished drawing-room. The child princesses joined us afterward in the red and gold Great Hall, with an equerry behind them, nervously watching for whatever might happen.

By the end of 1943, the consolidated functions of my A-4 staff position, and commanding general of the VIII Service Command, were operating effectively. Under those two hats, I was able to take immediate action on all logistic matters.

Late in December, General Eaker recommended me for the award of the Distinguished Service Medal and promotion to the grade of major general. Washington approved the medal, but not the promotion. I could not understand why my commanding general's recommendation was ignored when my command was now 56,000, soon to reach 100,000 men. Obviously, at least a major general was appropriate. The Army had a lieutenant general with similar responsibilities. Gossip had it that a certain Air Force officer in the War Department staff had his eye on my assignment. I was not surprised. I had ruffled his feathers several times.

Much of the credit for this endorsement by the commanding general belongs to Colonel Bitting and his two assistants, Col Granville Carrel and Major Mayo. This credit was because of the manner they received, classified, and distributed the deluge of men and officers that descended upon us following my recommendation to Arnold to send people, not units. Likewise, a lion's share of this recognition is to Ike Ott and Buddy Arnold for their efficient operations in production of the arms that eventually overwhelmed Germany.

In 1943, the day before Christmas, General Eaker informed me his command was to be reorganized immediately. General Eisenhower was coming up from Africa to establish his headquarters as the supreme allied commander. General Spaatz was coming with him to organize the US Strategic Air Force, and that he was going down to Italy to command the Mediterranean Allied Air Forces—these changes had been determined at the Cairo Conference when the decision was made to invade Germany from England instead of from the Mediterranean.

General Eaker did not tell me whether his staff or I were going with him, nor did I ask. I admired General Eaker as a great commander who knew how to state clearly what he wanted done but refrained from telling how to do it. If you did not produce, he would get someone who could.

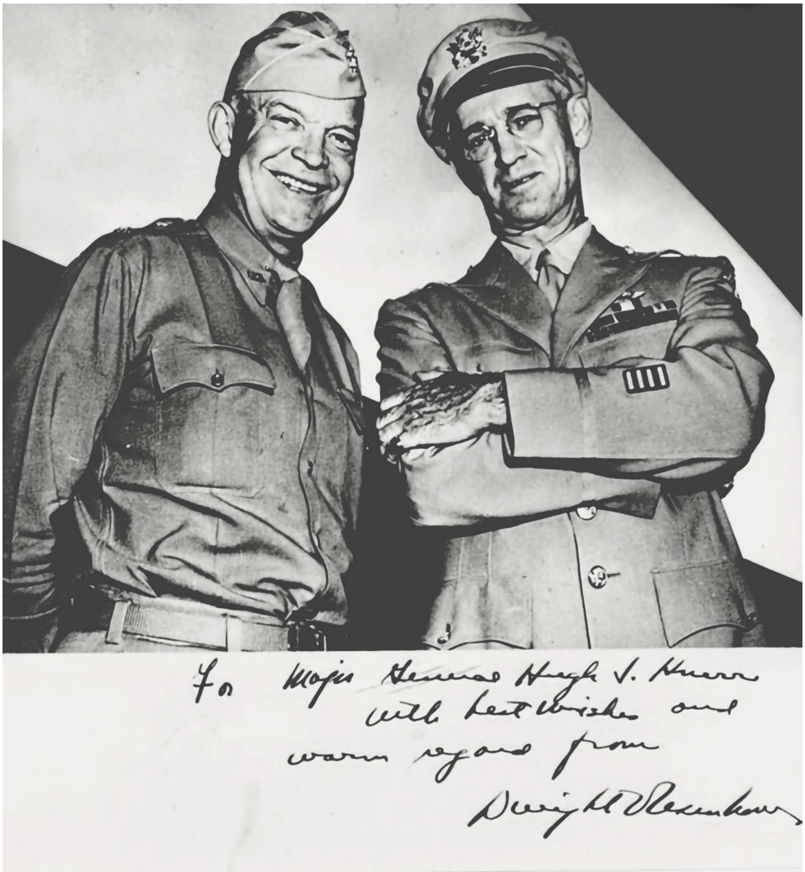
I was apprehensive lest the change of command upset the smoothly functioning headquarters of the Eighth Air Force. No conflict of interest had resulted from my dual position as commander of the VIII Air Service Command and G-4 on Baker's staff. The arrangement had locked step with the requirements of daily combat operations so effectively that no misunderstanding developed when aircraft became dead-lined for lack of repair parts. On such occasions, the unit commanders were urged to visit our Burtonwood base and see how we were manufacturing parts lost in the Atlantic convoys, rather than waiting for replacements.

The probability that Gen Charley Chauncey, Eaker's chief of staff, would go with Eaker was depressing. Chauncey came from my part of the country, Ada, Oklahoma. A typical westerner, raw-boned and sparing of speech, he was a pleasant companion when conversation was needless. I would miss him and his superb enchiladas.[2]

What disposition would be made of me in the new regime was an open question. A new commander usually brought along his own familiar establishment. Perhaps Dell Dunton or Harold Bartron would replace me.

General Eaker's departure with his chief of staff, General Chauncey, left a void in our closely-knit company. General Eaker, short in stature and somewhat rotund, was a giant at the head of our Air Forces in Europe during the early stages of the war when a shortage of men and munitions were seized upon by men of lesser attainments to fault him. His cheerful presence in the face of crises assured us he saw the light at the end of the tunnel none other perceived. The United States was fortunate to have such a commander in the hot spot at that critical time.

General Eisenhower arrived during the last week of 1943. He brought Generals Spaatz and Brereton with him. He informed us upon arrival he wanted to establish his headquarters near ours in Bushy Park. I assured him we could rehabilitate a large residence nearby within ten days. We found the house in poor condition, but the general said it was exactly what he wanted. Now it was up to me to make good on a rash promise. I knew we had every trade and skill under the sun in the service command. With the aid of Colonel Jackson on the special staff, we finished the job by noon of the tenth day.



Hugh J. Knerr and Dwight Eisenhower, signed "for Major General Hugh J. Knerr with best wishes and warm regards from Dwight D. Eisenhower." The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Notes

1. Brig Gen Isaac "Ike" Ott, who was commander of Base Air Depot 1 (BAD1) and later the Base Air Depot Area (BADA) at Burtonwood. Lt Col Richard William "Billy" Arnold, Chief of the Maintenance Division, who was known widely as "Billy" but is referred to in Knerr's papers as "Buddy." Before the war, Billy Arnold was a racecar driver and in 1930 won the Indianapolis 500.

2. Knerr would bemoan Chauncey's absence for days after his departure, writing to his wife Hazel, "Chauncey just left, I feel so sad!" However, days later he would resiliently note, "Now that Chauncey has gone to bask in the sun of Naples, I find a demand that enchiladas must go on."

Chapter 16

Strategic Air Forces in Europe

1944–1945

General Spaatz was an old acquaintance. He had been on duty at Schofield Barracks in Hawaii while I was on duty at Fort Ruger and had succeeded me in the GHQ at Langley. I found him still to be the same quiet, reserved person, slight of build, with reddish hair, and an incisive manner of speaking.

General Order #1, issued by General Spaatz on the 6th of January 1944, designated me as deputy commander for administration, and Gen Fred Anderson, the deputy for operations. He retained the in-house special staff with General Curtis at the head. General Doolittle was named as the commanding general of the Eighth Air Force, and General Twining, the commander of the Fifteenth Air Force in Italy under General Eaker.

The Strategic Air Force shaped up rapidly in accordance with directives from the Joint Chiefs of Staff. The status of the Air Service was not changed and remained under my command.

With complete control of logistics for air operations in the European and Mediterranean Theatres in my hands, I would have to fish or cut bait—I faced an awesome responsibility.

General Spaatz's directive for me augured well: "The deputy commanding general for administration will be jointly responsible with the deputy commanding general of operations for the effective accomplishment of the objectives and the execution of the policies established by the commanding general US Strategic Air Forces in Europe. He is the commanding general of the Air Service Command, USSAFE. The functions of his dual responsibility were accomplished through the mechanism of the Air Service Command without the necessity of creating an additional staff for this purpose."

I assured General Spaatz I could assume those responsibilities without difficulty. He paid me the compliment of saying he was ready to sink or swim on my performance.

I could see I was going to be right busy when I considered, buried in those generalities were the specifics: receiving, quartering, feeding, and distributing the 240,000 men to be received by 1 January 1944; procurement, storage, distribution, issue, maintenance, repair, salvage, and statistical control of the aircraft and hardware consumed daily by our own and dependent British air forces. Actually, no great problems arose. The deputy system gave me the needed authority to utilize the specialized talents of a few trusted individuals from civilian life, as well as the military.

German reaction was prompt and violent. When they were unable to penetrate the shield of Spitfires in the daytime, they made the most of clear nights, with the apparent objective of hitting our headquarters area. Many houses in our vicinity collapsed in these attacks and buried the occupants under a pile of bricks. On such occasions, we repaired to the upper floor of our house when the dugout was too cold and damp; we figured we would be on top of the pile if we survived.

We found relaxation, when war pressure allowed, in General Spaatz's mess at Park House, a short walk from our place. Many interesting personalities from political circles and governments in exile would be present at these times. We thoroughly enjoyed the conversation of Ambassador Winant, Prince Bernhard, Lord and Lady Astor, Bernt Balchen, , and many others.

Occasionally, we attended dinners given by our London friends at Claridge's, the Embassies, or the "In-and-Out" Club, where half of the hall had been caved in by a bomb. The conversation was frequently interrupted on such occasions by the "Wailing Willies," while everyone mentally measured the distance at which the approaching bomb string might or might not pass by.

This business we were engaged in was a melancholy one. Also, the English weather was atrocious most of the time. One seldom saw the sun, and through a sulphureous haze generated by the small fireplaces; coal smoldered, but seldom blazed. I marveled at how such a climate could produce so admirable a people as the British.

A diversion, helpful in reducing the tensions of war, was to prowl through the second-hand shops in Kingston and Newbury, where the treasured possessions of families wiped out in the bombings could be bought at nominal prices. I acquired, among other things, a diamond and emerald ring given to Lady Jeanne by Marie Antoinette—truly, a museum piece.

Other items of great interest in these shops were: chain-mail shirts of the Crusader period, cross-bows, armor, helmets, blunderbusses; all piled in dusty disorder. While handling these weapons of past conflicts I wondered who had worn that armor . . . what had been his responsibility to the authority that had so clad him . . . how transient had been his life . . . what did he think of the blunderbuss that had rendered his armor and long bow useless . . . would our bombers join them in the trash bin of history?

By the end of the month, there were indications that all was not well concerning my assignment as General Spaatz's deputy: a cable was received from the War Department on the 30th of January 1944, calling for representatives of the VIII and IX Service Commands to attend a conference there. I was about to go myself, when my attention was called to a rumor that someone was after my assignment—I might not return. Colonel Bitting volunteered to go in my place. Shortly thereafter, General Arnold notified Spaatz he was sending a top administrator over to him who would set up an administrative organization—apparently, my hunch was correct. The letter General Spaatz sent in reply was significant in that nothing further happened.

The flow of cables and telephone conversations now increased. At times, these inquiries bordered on nitpicking, but overall indicated all-out support for the difficult processes of logistics we faced in our daily contest with Hitler—on land, at sea, and in the air. The deck-loaded tankers, with their fighter aircraft, were a constant worry. The magnificent job the Navy did in getting the convoys across deserves the highest praise. When my friend, Commodore Weems, arrived safely with his convoy one day, I felt contrite over having been too rough on the Navy at times.

Enemy opposition increased in tempo and severity as we penetrated deeper and deeper into Germany. Generals Spaatz and Anderson and I gathered daily before the war map where the missions for the day were displayed in colored ribbon across the face of Europe, showing the planned routes of our bombers and fighters. This display, augmented by my logistic summary and Anderson's report on British cooperation, gave General Spaatz a concise picture of his resources for the day.

The atmosphere was always tense with apprehension lest disaster befall the great formations of B-17 bombers, or they encounter overwhelming clouds of German fighters, while on their own beyond the range of our fighter support. Despite heavy losses at times, no mission failed either from enemy action in the air or from the ground.

Weather was always a competing factor. Our objective was always to do as little damage to nearby communities as possible. The weather sometimes changed at the objective, contrary to the forecast of our expert weathermen, making it necessary to bomb through the cloud cover rather than abort an important mission. Disaster befell a Swiss town across the river from a critical target; the indemnity paid immediately could not heal the wound or ease our regret.

Col George McDonald furnished us with intelligence reports compiled from Col Elliot Roosevelt's night reconnaissance photographs and British agents on the Continent. I would sometimes look around among those present and wonder who among them might be the counterpart of our agents. If there were any, they disappeared so quietly, and I never noticed.

Progress reports trickled in as the day or night wore on telling of losses from flak and fighters; success or failure in wiping out an oil refinery, a ball-bearing source, or an aircraft factory. Photographs of the strike taken from the aircraft, together with the analyzer's report, were delivered later on which decision was made whether to repeat the strike or not. No operation was ever cancelled for lack of aircraft, munitions, or willingness of the crews.

At other times, we visited airdromes to observe the great flights of B-17s take off on their missions or to watch for their return—too often with gaps left in the formation by fallen comrades. On other occasions, even though the formations were intact, red or white flares let us know there were dead or wounded aboard.

When our Air Force encountered greatly diminished opposition, we were able to warn the civilian population of three cities one of them would be bombed on a certain date. The citizens of those three towns would evacuate to a safe distance, thus disrupting their war activities and putting the Luftwaffe up against our old shell game—under which shell was the pea!

Planning for the invasion placed the British bomber command and our Air Force under direct control of General Eisenhower. No change in the status of my command was involved. By now, our lightened maintenance load enabled us to reduce our depot stocks and reverse the flow of trans-Atlantic traffic.

I was notified on the 5th of March, my long-delayed promotion to major general had been approved by the War Department. I wondered what the secretary must have thought when he signed the commission.

General Eaker came up from Italy on the 25th of March. He said the most interesting event down there was a violent eruption of Mt. Vesuvius. When he was ready to return, we loaded a B-24 with supplies he could not get at his Caserta Headquarters—including chili beans for Chauncey.

The ten B-24s we had converted to freighters were constantly on the go to Italy, Sweden, Africa, Russia, and the United States, hauling emergency supplies and equipment which the transport command could not handle expeditiously. Deployment to the Pacific war would be necessary after Europe was made secure. We were engaged in the planning for the Pacific movement when we received word Washington was doing the same thing for us. We objected, on the grounds we should be told the priority in which units were to be moved, but not told in detail how.

I was distressed to learn at this time that General Miller was in serious trouble for alleged breach of security, regarding the proposed date of the invasion. Whether true or not, he was demoted from major general to lieutenant colonel and sent home the next day. So many odds and ends incident to the invasion planning had accumulated, I obtained authority to fly back to Washington with my staff for conferences at our headquarters in Washington and with General Somervell concerning problems of ammunition supply.

I had a final conference with General Arnold before leaving Washington on the 4th of May, concerning the Russian "Frantic" operation, the replacement for General Miller, the Pacific logistic plan, disposal of surplus property in England, and other items incident to invasion of the continent. Now that we had proved our capabilities, the Washington office was eager to do everything within their power to ensure success of our program. Arrangements were made to have General Kane and Maj R. F. Waters sent over to assist in logistic and police matters.

With official responsibilities out of the way, Hazel and I visited our Annapolis friends and made arrangements for the sale of our ketch—much to our regret.

At the Washington Airport for the return flight to England, we were met by Hugh and Dorothy Altick. Hugh, my cousin and namesake, was to be my aide. I felt this to be an excusable case of nepotism since I knew his intelligence and legal capacity could relieve me of many details, better than any stranger could. After a fond farewell that left the women in brave tears, we got away at 1430 and landed at Prestwick, Scotland, nine hours later after a cold, rough trip.

At my office, I found a clean desk—the sure mark of a good organization. Our logistic program for support of the invasion was well in hand except for trucks. The Army had seen to it that they had a full complement of trucks for operations on the continent, to the neglect of Air Service needs. This pointed up my oft repeated insistence that we should have our own SOS from ports to airdromes. We were forced to use bombers and transports to fill the gap.

General Eisenhower made a final inspection of our logistic establishments on the 17th of May. Afterward, he expressed surprise at the magnitude of our operations and his satisfaction with what he had seen.

On the 26th of May, word was received to close all personal diaries and to take precautions against tipping off enemy agents the invasion was near. Those with a "Need to Know" were told the projected date was 5 June, when the combination of daylight hours, low tide, and moonlight would be most advantageous.

Recollection of the weather conditions that broke on the original date of the 5th of June filled us with apprehension. If the invasion had been attempted on that date, we would have suffered a greater disaster than that which overcame the Spanish Armada when they ignored their weather prophets.

Early on the 5th of June, our weathermen were confronted with high winds and lashing rain that showed no sign of abating; however, it was their opinion the storm would exhaust itself by midnight—a period of relative calm would follow, lasting from thirty-six to forty-eight hours. General Eisenhower ordered the invasion to begin the next morning, the 6th of June 1944.

I immediately got in touch with General Spaatz when I heard he was going to observe the invasion from his B-17 and asked to go along. He very promptly agreed and told me to be at the Bevington airdrome by 0400 the next morning—I was there long before that hour.

When I arrived at the airdrome, the rain had stopped. Black clouds still drifted across the moon. B-17s, dimly visible in the early twilight at this high latitude, stood silently waiting for the touch of living hands to transform their cold bulk of metal into a vibrant thing of grace and power.

At age 58, I wondered whether I had any real excuse to be standing there in the pre-dawn chill, or to be in on the greatest military event in the history of Europe.

But, on second thought, I took pride in recollecting I had participated significantly in creating those B-17s out there, and in establishing the principles for their employment. The moment of truth was at hand.

The clang of a dropped wrench, reverberating through the dimly lit hangar, aroused me to realization that the aircraft crews were assembling. The fragrant aroma of American coffee, drifting from the nearby gatehouse, was too much to resist; there I found two British soldiers sipping tea, and an American lieutenant with his hands wrapped around a huge cup for warmth—of course, I would have a cup!

General Spaatz arrived, and with a cheery "Let's Go!" hurried over to his B–17. The crew was already in place. I followed Spaatz to the cockpit where he took his station behind the pilot, and I took mine behind the co-pilot. A short run and we soon passed over Beachy Head and saw a vast armada of vessels and aircraft debouching from the coast like a swarm of beetles ousted from under a rock.

The surface of the channel was laced with streamers of white waves from the wake of surface craft, and the sky was filled with neat formations of American and British airplanes on their way to appointed tasks.

Patches of cloud and wisps of fog left by the passing gale obscured our view of the action on the beaches. I moved into the right-hand machine gun position in the nose as we neared the French coast and scanned the sky for possible German fighters. Apparently, the decoy maneuvers off Calais had drawn them away from the Cherbourg area. I had no customers. Now and then, explosions from the battle below erupted through the clouds. Occasional anti-aircraft bursts bloomed ahead. Not a very exciting moment for us after all.

When clouds completely blotted out land and sea below, we turned back to observe the disciplined columns of fighters and bombers still coming out of England in an endless procession. The sunlight reflected off their wings, giving the formations the appearance of swarms of mayflies.

The peaceful green landscape of England when we passed over the white cliffs of Dover seemed to spread wide the welcoming arms of a liberated land. General Eisenhower's message over the radio announcing the successful lodgment on Hitler's *Festung Europa* was stirring confirmation of that thought and promise of eventual success in returning Europe to its rightful owners.

The Joint Chiefs of Staff arrived on the 9th of June for a conference. The Navy, at this conference, planned to take over the Pacific phase of the war with Admiral King as the supreme commander—the proposal was not accepted.

After the joint chief's conference, General Arnold held a meeting with the major commanders to acquaint us with the situation. One item worried us lest General Eisenhower's deputies, Tedder and Mallory, might divert our Strategic Air Force to direct support of ground troops; if this were done, that would be all Hitler could desire to enable him to revive his oil and transportation resources. General Eisenhower assured us he would take care to see that this was not done.

The first of Hitler's boasted secret weapon—the *Vergeltungswaffen*—quickly dubbed the buzzbomb—began coming over in June. The V-1 was an ingenious device; mass-produced from cheap sheet iron, guided by a simple gyro, powered by an impulse engine, and loaded with two thousand pounds of explosive that shattered everything nearby when it dove in at the end of a timed run.

You could hear the V-1s coming for several minutes before they appeared; you could see them being pushed ahead on a ball of flame and hear the putt-putt rumble of the engine. On one occasion, the missile cut off almost directly overhead. No gopher ever dove into his hole faster than Colonel Bitting and I dove into ours. When we popped up after the blast, we saw a fine old mansion nearby reduced to a pile of rubble from which a dignified old lady emerged, shook the plaster out of her hair, and raised a clenched fist to the sky in silent defiance of Hitler and all his works. Strangely, she was not even scratched!

The rest of June and all of July witnessed a continuous harassment of our headquarters area by the V-1s. Apparently, the Krauts knew Eisenhower's headquarters and ours were located together in Bushy Park. A typical day included: routed out of our cave early when we heard a V-1 coming . . . the noise gets louder, and louder . . . will it dive on us . . . it sputters just as it passes overhead . . . sudden quiet . . . a red glare and explosion in next block . . . wonder who has had it . . . work in office interrupted frequently. . . dash outside into slit trenches . . . once with Eisenhower . . . dinner at Park House delayed by a hit in the yard outside that blew in the windows . . . passed maid in hallway with a dog in her arms . . . fast walk back to our house escorted by a V-1 . . . then to bed in the cave among the spiders and crickets.

By the end of July 1944, the Army had advanced far enough for General Bradley to establish a zone of communications. In the course of an inspection of the Cherbourg area, I ran across a massive concrete structure that covered several acres; it had been half-finished when our Army over-ran the location. No one would, or could, tell me what it was. The site was later identified to be an installation for the V-3 Rocket Hitler was bragging about; large, smooth, bore tubes to be mounted there from which a steady stream of rockets would be launched against London.

For several months, we had been engaged in a top-secret movement of men and materials to bases in Russia at Poltava, Mirgorod, and Piryatin. These bases were supporting the shuttle bombing of Germany. Bombers based in England or Italy would bomb Germany to and from Russia.

The reports I received from Poltava indicated: "The Devil was sick, a monk would be; the Devil was well, a devil of a monk was he." I decided to go out to Russia and see for myself that our people would not be faulted through failure of the British convoys to reach Murmansk or neglect by the Russians to transport our equipment and supplies by rail to the bases.

For my B-17, I assembled a staff to assist on the Russian inspection project which included Brig Gen Malcolm Grow; medical inspectors, Colonels Dixon and Bitting; Captain Altick; and crew pilots, Black and Kransler with crew chief Cannon.

We got away on the 1st of August 1944 for a night flight to Casablanca, Africa. After a day at the former German headquarters in the Villa Maas, we left for General Eaker's headquarters near Naples, Italy. We found the general and his staff established in the massive place of the former Kings of Naples at Caserta.

The Palace of the Kings was a museum of past glories. It had been used by the Germans as their headquarters before they were driven out by the Allies. When they left, they took many treasured items—even to cutting the needlepoint covers from their chair cushions. I was happy to see Chauncey uncomfortably seated in one of the gilded high-backed chairs of an immense antique desk. The building was now occupied by the Allied powers and was buzzing with intense activity, incident to the imminent invasion of the Continent.

To be certain our supply and maintenance support in Italy was effective, the next few days were devoted to conferences and inspections at the operating bases from Rome to Bari. There were interesting things to see in the vicinity of these installations; at Rome, we visited the many evidences of her past power and glory; the bridge, where Horatio held off the enemy alone; the coliseum, symbol of Roman cruelty to man and beast; the Vatican, symbol of another Roman power; the forum, evidence of the fate awaiting all Republics when political and social rot destroys the will of their armies to defend them.

At Bari, we found General Twining exasperated with the local politicians who were more intent on their own fortune than Italy; the stench of untreated sewage along the beautiful waterfront was overpowering. Inspections on Corsica, Sardinia, and Sicily completed our mission. On the way back to Caserta, we saw a large convoy making up in the Bay of Naples for the invasion of southern France.

At Caserta, we attended a small party at General Eaker's quarters for Marshall Tito and General Somervell. I was impressed with the strong resemblance of Tito to General Andrews.

We left Naples in the rain on the 11th of August. We picked up the coast of Africa near Benghazi, flew across the desert to Cairo, and checked in at Gen Ben Giles' headquarters where we found the general playing backgammon with the prime minister of Saudi Arabia, betting jeeps against the minister's camels.

We remained in Cairo only long enough to have a minor defect in the airplane corrected; meanwhile, we visited the Pyramids, the Alabaster Mosque, the Citadel; we mingled with the Arabs and their evil-smelling camels. I was profoundly disillusioned about the colorful life portrayed in Bible stories.

We left Cairo early on the 13th, crossed the Suez Canal near Ismailia, across the Sinai desert near El Arish, and on into Palestine. From there, we crossed the Dead Sea near Beersheba and Trans-Jordan near Amman. At Baghdad, we passed over the Euphrates and Tigris Rivers. From the air, the country looked much like Arizona.

We arrived at Teheran at 2:30 p.m. where General Donnelly of the Far Eastern Command met us and arranged for our passports into Russia. A Russian general invited General Grow and me to the Russian Officers Club while we were in Teheran. Perhaps the fact Grow had been a surgeon with the White Russians in Siberia many years before accounted for this attention—or was it surveillance?

We toured the city while waiting for our passports. We investigated the throne room and were firmly escorted out by the menacing guards. We saw the city's water system consisting of an open ditch at the side of the street, with running water to serve for drinking, bathing, washing, and any other use you may think of.

When we were ready to leave on the 15th, we were informed that we could not take our B-17 into Russia; instead, a Russian DC-3 and crew would be assigned to us, because there were no facilities for servicing B-17s in Russia! A mere statement is a fact in Russia.

We stopped at Baku on the Black Sea for entry clearance and had another breakfast of tea, caviar, bread, with a soup that tasted like water from the oil wells. The wooden, detached attitude of the waitress and a few customers seemed very strange.

From Baku, we flew over the flat Ukraine collectivist farms that stretched to the horizon in every direction. This part of Russia looked much like western Kansas without towns or roads. In the far distance we could see clusters of houses, which the pilot seemed to carefully avoid.

Russian officers, Operation Frantic, August 1944. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The area near Stalingrad bore evidence of the severe fighting that had taken place there. Many zigzag trenches and tread marks of tanks were visible. As we approached our destination at Poltava, we could see that it was almost destroyed.

We were met by Generals Kessler and Walsh at Poltava; spent the next three days inspecting our installations, all of which were under canvas. Our people were doing an outstanding job under the most primitive conditions. At every one of our three bases, there was a general complaint over the thievery on the part of the guards provided by the Russians. They all appeared to consider the Americans as fat geese sent there for the plucking.

American Officers: Knerr, Walsh, and an unknown officer; Poltava, Operation Frantic, August 1944. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Our party completed the inspections and compiled the notes for our report by the evening of the 17th. We left on the 18th for Moscow, where we were met by Ambassador Harriman.

Ambassador Harriman was a cordial host during our stay in Moscow. My conversations with him opened my eyes to the sad political situation we were in because many of our politicians cannot understand why the Russians do not think like honest Americans.

A sightseeing tour was arranged for us in company with an escort of Stalin's agents. Except for the impressive Red Square, the diversion was depressing, shoddy construction, drab shops, women doing heavy work, and an almost total lack of a smiling face.

A pleasant contrast to the tour was our attendance at the opera house performance of the ballet, *Magic Fountain*. The opera house was still richly decorated as it had been when the Czar had occupied the box opposite our seats. The audience consisted largely of roughly dressed mechanics and laborers who had been awarded tickets for exceeding their work quotas.

On the 19th of August, I obtained permission to visit the *Sturmovik* aircraft factory. The Russians resisted this visit because of my technical background, but diplomatic pressure forced the agreement. I was met with ill-concealed annoyance by the plant manager.

I was escorted to a structure, roughly built, where obvious preparations had been made for my visit—even to freshly scrubbed steps at the entrance. The interior of the building was a large, open space, dimly lit with bare light bulbs. A railway track circled the open space on which a train of dollies carried the aircraft being assembled. Women were engaged at steel tables, welding parts to go on each airplane when it arrived opposite them. A company of women marched in like a platoon of soldiers and were dropped off at the tables to relieve the previous group. When they passed me, heads down, I noticed their eyes turned hungrily to my boots—their shoes were mostly made of rags.

A bell rang while I was absorbed in the grim scene and the train was jerked ahead to another station to receive parts for the aircraft. I wondered what happened to anyone who did not get a task finished when the bell rang.

Near the end of the assembly line, I climbed up onto one of the dollies to look in the pilot's seat; only essential instruments were there, and none of the luxuries our pilots enjoyed. I was surprised to find the rear half of the airplane was made of plywood.

At the far end of the building, the finished airplane was rolled out to the testing bunkers, where the guns were fired, and the engine turned over. From there, I was taken out to the flying field, where test pilots took the airplanes overhead for a short flight, then back to the flight line, where combat pilots flew them away to the front. My inquiry on whether they lost many airplanes from lack of maintenance or enemy action received a shrug and comment—that they had plenty of pilots and airplanes.

I was glad to get outside into the park, where the more deserving comrades were enjoying the sunshine. Large pictures were posted everywhere of comrade so-and-so, that had exceeded their work quotas the week before. A blast of propaganda from loudspeakers, here and there, went on continuously.

Mr. Harriman had breakfast with us on the morning of the 20th and accompanied us to the airport for our departure. A Russian Major General Luvdenov, came out to see us off also. We did not know whether this was courtesy, curiosity, or what.

My visit in Russia convinced me that the Russian mind that rises to top control must be devoid of imagination, compassion, or consideration for anyone of lower station; the head that contains those qualities must be lopped off as being an unknown menace.

I had many opportunities to observe the Russian people close at hand. The wretched conditions under which they lived did not seem to bother them. The peasants were quite satisfied with the small garden they could call their own, back of the cottages, allotted to them in groups near the collectivist farm on which they worked.

The sharp cleavage in the politico-military establishment was obvious. The lower ranks of the Red Air Force were very friendly when I had the opportunity to talk with them privately in their homes near our bases. General officers, on the other hand, had an attitude of reserve that bordered on suspicion. Their lack of cooperation was demonstrated on the occasion when our B-17s, on the Shuttle Raid, were followed to the Russian airdromes and destroyed on the ground. No effort was made by the Russians to protect our aircraft during the hour the Germans remained in the vicinity.

In my report to General Spaatz, I included a recommendation that "Frantic" be terminated as soon as practicable, in view of the fact that Russia, now that we were no longer useful to them, was neither friendly nor cooperative.

Our return flight to Baku and Teheran was uneventful. We had a woman inspector of the KFD with us all the way to Teheran. Bitting broke down her severe reserve by constant kidding—that was something unknown to her. When she had to laugh, we gave her a bar of fragrant bath soap, which she eagerly accepted. We also gave the crew a carton of cigarettes, which the pilot promptly commandeered for himself.

We left Teheran early on the 21st of August. In the air again, with our own airplane, among our own people, we felt like birds out of a cage. Unfortunately, our pilots had developed severe cases of dysentery while waiting for us at Teheran. I decided to stop at Tel Aviv for them to get treatment, while we took the shuttle plane back to Cairo. We found Tel Aviv crowded with Jewish refugees, waiting out the war—it was not a pleasant sight.

While waiting for the shuttle plane, we visited Bethlehem and Jerusalem, where we saw all the sights so familiar to tourists. I was shocked by the commercialization of all the holy places.

At Cairo, we met General Twining, commanding general of the Fifteenth Air Force in Italy. We were glad to accept his invitation to join his party on a trip up the Nile to Luxor and Karnak. At the temple, we were amused by a snake charmer, who put on an act with a cobra, and a scorpion.

As we left the airdrome in the pickup truck, the Arab's burnoose caught in the tailgate while he still had the snake in his hand. Somehow, the snake got transferred to General Twining's arm. A near riot ensued when the truck gathered speed with the yelling native trying to hang onto his clothes and Twining struggling to get the snake off his arm. When the racket attracted the driver's attention, the Arab retrieved his clothes, Twining shed the snake, and we drove away with the snake-charmer calling on Allah to do something.

On our return to Payne Field, we found both of our pilots were in the hospital—Captain Williams was our new pilot. Captain Altick and Colonel Givens had the dysentery. I had heeded General Grow and did not eat raw fruit or drink unbottled water; I escaped the 'gypy.

We passed smoking Etna on our way back to Caserta and landed at the Marchienese airdrome late in the afternoon. As we taxied off by the runway, two P-51s were prematurely cleared for takeoff by the airdrome officer, Major Hormel. A heavy crosswind veered the fighters over to us. One of them failed to clear us and struck the tips of our propellers and the pilot's astrodome. The fighter turned over and crashed; the pilot was killed, our copilot was cut on the face and neck, and I wrenched my back again when I dove for the floor—a close call at the end of a long, potentially dangerous, trip to wartime Russia.

Waiting for a replacement airplane, I visited the island of Capri, where we had a rest and recreation center. While there, I climbed the rough path that led to the Emperor Tiberius's Villa Jobis—his retreat from the heat and noise of Rome. He built this magnificent palace on the highest point at the end of the island. His grandfather, Emperor Augustus, had built his at the other end of the island. All materials to build these structures, and the people who reside there, had to be carried up on slave-borne litters.

I found the Villa deserted and lifeless, but still an imposing edifice of brick and marble, despite the earthquakes that had shattered much of it. The Emperor's bathroom, with a marble tub and mosaic floor, was unspoiled—to take a small bit of the mosaic and marble was a no-no I could bear—but faintly.

Water for the palace was caught on rooftops and stored in immense cisterns. An intricate system of tiled channels led to the kitchens, baths, and the many chambers into which the lower level of the palace was divided.

Earthquakes and the elements had left the ruin badly shaken and roofless. The tiled patio at the edge of the cliff where Emperors enjoyed the blue panorama of the Bay of Naples and the Sorrento Peninsula, I shared with him in spirit for half an hour in complete silence, save the plaintive cries of seagulls far below. I could imagine sitting there with him in Roman luxury while he dictated or received messages through the semaphore system connecting him to Rome.

Back at the Caserta Palace, we packed up and returned to the airdrome where we were joined by Generals Spaatz, Eaker, and Chauncey. Our replacement B-17 was there ready for the return flight to England.

On the flight home we passed over rugged Corsica, with the snow still on the mountains of Napoleon's homeland. We passed into France near Marseille without escort, weaving about looking for business. The countryside below looked deserted: no sign of life, no cattle, no traffic, and no smoke until we passed near Tours, where part of the town was burning.

Halfway across France, the weather turned bad and gradually forced us down to treetop level with occasional hills obscured in the clouds. Between the hazards of ground fire and stuffed clouds, we chose the high road and broke out in the clear at 12,000 feet. We landed on the Heston Aerodrome in bright, sunny weather. I was sure I had been in England too long when I felt like I had come back home.

We had been away thirty days. I found the organization functioned so efficiently, there was little on my desk requiring attention. When the boss can get away that long, he is either a figurehead or has done his job thoroughly (take your choice).

The buzz-bombs had been right bad. My secretary, Robert Denniston, almost was knocked off while walking down the street with his warrant officer friend. Robert dove into the gutter in time, but his friend was killed. I was very happy that Lieutenant Denniston escaped. I would have had difficulty finding someone as efficient and pleasant as he was—I disliked female secretaries under war conditions.

Paris had been liberated while we were away on the Russian expedition. Eisenhower had moved his headquarters to the continent. By the end of year, all headquarters including ours had moved to the vicinity of Paris.

We established our first headquarters in France at Granville. Our arrival at the small airport was an occasion for celebration by the French people. The runway was lined with smiling faces, waving flags, and "V" signs. The ditches along the road into town were filled with recently wrecked cars, tanks, and trucks. Soldiers, with sinister looking Sten guns, patrolled the countryside.

A small chateau was assigned to us. It was most attractive from the outside, but the Germans must have lived like pigs. It took a staff of half a dozen servants all day to make it livable, while the engineers exploded booby traps.

When we were settled, I returned to England to check how the depots were getting along with preparations for deploying to the Pacific. I found my deputy, General Kane, had everything in excellent shape.

We closed our Granville Headquarters on the 12th of September 1944 and moved to the vicinity of Paris. My office was established in the Louis XIV Palace at St. Germain, on the high ground above the Seine, with all of Paris spread out across the river. A forest of chestnut trees enclosed half of the park to serve as a buffer between the Palace and the village of St. Germain, where a residence was assigned to me at 17 Rue Franklin.

My residence belonged to a wealthy Frenchman; it had been occupied by General Rundstedt's staff. When the Germans left in a hurry, they abandoned their collaborators to the gunfire we heard in the forest every night. I wanted the house across the street for Colonels Bitting and Morris. When I asked if we would have to give it up when the owner returned, I received a cold reply: "She won't be back." We found thousands of German marks hidden in the woodpile in the basement.

The Distinguished Service Medal was presented to me on the 24th at General Spaatz's London headquarters before a select company that included Ambassador Winant. I wondered whether I was entitled to such a war zone distinction.

When Air Marshals Harris and Tedder attempted to have the Eighth Air Force moved over onto the continent, I objected on the grounds that such a move was logistically impracticable and operationally unnecessary; the move was not made.

The decisive Battle of the Ardennes was in progress during this period. Our Army was having trouble in finding replacements for their heavy losses. In view of the fact that the Air Force had won its battle and could contribute manpower to the Army in this crisis, we were called on to exchange 19,000 of our people for Army casualties. We did not like the idea but relished the opportunity to rib the Army on their need for Air Force help, on the ground as well as in the air.

When the action near Bastogne isolated part of Bradley's troops too far away for him to exercise effective command, General Eisenhower placed the British General Montgomery in temporary command of Bradley's northern flank. Montgomery held a press conference to announce he had been placed in command of Bradley's Army. The real action in the Battle of the Bulge took place in the center of that front, leaving Montgomery holding in the north, while Bradley, with Patton's armor, defeated this last attempt by Hitler to reach the channel.

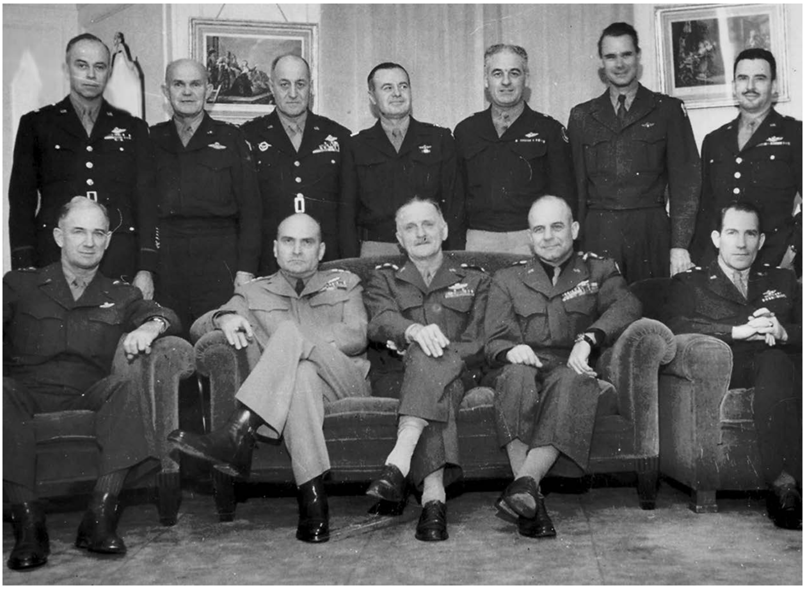
Heavy bombardment concentrations ahead of Patton's armor, Hodge's First Army, and Simpson's Ninth Army decisively forwarded the advance into Germany at this time. Thousands of ground casualties, at the cost of relatively few in the air, were thus avoided.

I had little to do during this period. The hard work had been done. Advanced planning, aggressive leadership, and unquestioning support by General Spaatz paid off when the hours of final decision arrived with the logistic establishment functioning out of a full larder of men, munitions, and aircraft.

Gen Orval Cook, on an inspection trip from General Arnold's office, commented: "Your logistic establishment is a magnificent show, by far the best setup and operating service command in the world—including the United States." That made me feel really good when it was followed up with an award of another Legion of Merit. The impending defeat of Germany was clearly indicated in the last quarter of 1944. Retrenchment and redeployment to the Pacific would be facilitated if I turned the service command over to General Kane and retained policy control only as part of my administration function. General Spaatz approved this arrangement on the 15th of December.

Barney Giles arrived on the 11th for a conference to consider our estimate of how long the war would last. He said the gloom in Washington was thick enough to cut and the thought prevailed the war would continue for another year. There was some substance for that apprehension: for some months, strange black marks on the snow at Peenemünde, where the V-1 and V-2 had been developed, showed up on strike photographs. In addition, our airmen reported little airplanes that passed them as if the bombers were standing still—if the Germans had been using their jet fighters six months earlier, there is doubt our aircraft could have survived.

At the conference, I maintained that the war would end within six months for the simple reason Hitler's logistics could not support it longer than that. My comment that battles were won through the clash of arms, but that wars were won by the side that had the best logistics, was received with a tolerant smile.



General Officer Conference Cannes, 1944. ***Standing left to right*****: Hill, Cannon, Royce, Edwards, Twining, Vandenberg, Schlatter.** ***Seated left to right*****: Knerr, Eaker, Spaatz, Doolittle, Anderson. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.**

Hugh Altick barged into a staff dinner meeting one evening armed to the teeth to announce that "Scarface," the abductor of Mussolini, was on the prowl in the vicinity with a detail of German soldiers, intent on murdering General Eisenhower and his staff. This aroused our interest since our two headquarters were near each other. We picked up our arms, had dessert, and patiently awaited the arrival of the uninvited guest: he failed to show. On the way back to our quarters, we poked into the former offices of Rundtstedt's headquarters, but found no substance to the rumor.

When we moved over to the continent, I had need for a smaller airplane to get into and out of hastily built advanced airdromes. Arrangements were made with the French to put half a dozen C-45s on a small airdrome at Loges. I had observed a snappy young pilot from Arizona, Capt Rex Robinson, to be resourceful and quick. He was placed in charge, as airdrome officer and my pilot. He paid off when, on one occasion, snow and fog forced us down to the water while crossing the channel; he had to zoom straight up to clear the cliffs of Dover, only to have Spitfires flash across in front of us: apparently our friend or foe signal was not working.

During February, General Spaatz and I made a few trips down to Naples to coordinate General Eaker's operations with ours in the European theatre. Between conferences, I explored the castle of the Kings of Naples, where the Mediterranean command headquarters was established.

The castle loomed as an immense structure of brick and marble with walls thick enough to withstand artillery fire of the era in which it was built. The dimly lit interior of the multi-storied building had the musty odor of antiquity; a broad, winding, staircase that ascended to the upper levels where American and British staffs occupied the high arched corridors and chambers among the trappings of a bygone age.

The front of the castle was heavily guarded, but the back opened onto broad lawns and gardens ornamented with marble statues of legendary figures. Terraces of reflecting pools ascended the mountainside beyond the gardens, with cupids and nymphs dabbling their feet in the water. Each pool was about twenty-feet square, into which a transparent sheet of water fell from the pool above. There were a dozen of these pools leading up to a marble group of Roman gods, assembled in the entrance to a grotto from which water from Alpine snows issued.

An inspiring view of Naples and the bay lay before me as I sat at the edge of the grotto among the marble family. In that clear atmosphere of Italy, it was easy to forget our mission and to view the bay panorama with the eye of a sculptor, who had fashioned this noble group. The pleasant sound of flowing water, mingled with the laughing voices of peasants working in a nearby vineyard, imparted a sense of impending peace and harmony here portrayed as marble.

When our business was finished, we flew back to Paris over Vesuvius and took some pictures looking down into the smoldering volcano. The sides of the throat were as smooth as a well—what a blow torch that had been a few weeks before!

I flew on over to Burtonwood Depot in England to check on the new commanding officer there, Col Morris Berman. I found he had eaten a pair of ducks who in past times had joined General Ott and me for lunch on previous visits. I could have killed him dead—except there was rule against it. Berman was a compulsive eater; he was known as Mr. Five-by-Five, because of his tremendous girth. As was to be expected, he died of a heart attack not long after.

The tedium of liquidating the war, now slowly degenerating to an ignominious end, was relieved now and then by news from home. I longed for the peace and quiet of our place on the Severn, deep in the oak and pine forest, five miles beyond Annapolis—so isolated that Hazel could not stay there during the winter months. However, she went over there frequently, weather permitting, to roust out the raccoons and squirrels that managed to infiltrate the lower level of guest house and garage.

The restless March winds I remembered would soon bring the blast of winter that always transformed Epping Forest into a crystal fantasy and trimmed the deadwood from the trees with a heavy load of wet snow. I dreamed of the many projects that awaited my homecoming: dock pilings to jet down where ice had inched them up with each tide; a water ram to lift fresh water up the bluff to a tank in the attic; get my machine shop in the garage to work on a small invention I had in mind; prepare the garden for a crop of bantam corn; get set for the annual battle with dandelion and crabgrass. These, and many other activities that took me back to the self-reliant life of forty years ago, all but blotted out the realities of the moment.

March 1945 became an active month in the air and on the ground:

- 1 March, Red Baltic drive cuts of Danzig.
- 2 March, Americans reach the Rhine, capture Krefield, Third Army takes Trier and Neuss.
- 6 March, US First Army captures Cologne. US Third Army drives toward Coblenz.
- 7 March, US Third Army reaches the Rhine. Russians hurl seven armies toward Berlin from the Oder.

- 8 March, Americans capture Remagen Bridge and cross the Rhine.
- 12 March, Americans striking from the Rhine gain 2 1/2 miles. Russians capture Kuestrin in Berlin drive.
- 15 March, British reject German peace feelers made through Sweden.
- 18 March, US Third Army captures Coblenz. Berlin hit by RAF Mosquitos on 34th consecutive day.
- 20 March, US Third and US Seventh Army join in Saarland. Capture Saarbruecken, Zweibruecken, and Worms. Patton enters Mainz.
- 22 March, US Third Army crosses the Rhine. Russians move.
- 24 March, Four Allied Armies swarm across the Rhine. Reds advance 44 miles in Hungary.
- 26 March, US Third Army passes Frankfurt and into the central German plains. US Seventh Army crosses the Rhine. Russians attack in Slovakia.
- 28 March, Allied Armies drive 27 miles across Germany. Reds capture Gydnia on the Baltic.
- 30 March, US First Army locks up the Rhur by seizing Paderborn. Reds take Danzig and invade Austria.

All the above action kept our strategic and tactical air forces busy around the clock. There was little for us to do at our headquarters since planning for this action had been accomplished months before.

In addition to the weekly staff meetings at the advanced headquarters near Rheims, frequent inspection trips took me to the field installations of the Air Service Command and combat units. On the 24th, Rex Robinson and I flew along the procession of gliders towed by C-47s for the assault on the Namur area, where four armies were swarming across the Rhine.[1] We took forty-five minutes to fly from the tail to the head of the long column in our C-45 airplane. I met with General Vandenberg at Namur for a discussion of his ammunition requirements in the next phase of the operation.

I dropped in at the Compiegne training installation of the Army to check on how our contribution of men was getting along. At the firing ranges, I observed our former mechanics crawling along on the ground with live ammunition buzzing two feet above our heads. To my surprise, they said they were enjoying the change. At the targets, I noticed the tracers were wildly scattered. I asked the infantry sergeant why and was told the airmen were very poor shots. I took one of the rifles and fired a clip. The wild pattern obviously pleased the sergeant—major generals could not hit a barn. I then took the sergeant's rifle and made a neat pattern at the edge of the bull's eye. His chagrin required no comment. The Airmen's rifles had smooth bores from long usage.

On the last day of the month, I flew onto an advanced airstrip on the ridge beyond the Remagen Bridge, where a field hospital was operating on casualties from the local fighting and loading them into C-47s for delivery to base hospitals in England. Although rifle and artillery fire were going on in the valley below, the Germans did not fire on the airplanes clearly outlined against the sky.

The scene inside the surgical tent was a sad sight. As fast as one patient was carried in, operated on, bandaged, and laid on an aircraft litter, another American or German took his place under the surgeon's instruments. The odor was so overpowering, Bitting had to leave in a hurry—too much for his sympathetic nature.

The month of April witnessed the rapid collapse of German resistance on the Allied and Russian Fronts. General Spaatz announced the end of the Strategic Air War on the 17th.

On the 20th, I had a call to meet Generals Spaatz and Eaker at Rheims. At the conference, I was told Arnold had instructed them to find out if I would take over the technical command from Lt Gen Knudsen at Wright Field, Dayton, Ohio. I told them I would take the job on condition I could operate in conformity with Arnold's policies, without interference from the Washington staff, and I be permitted to retire when the wars were over.

On a pleasant, spring day, Anderson, Curtis, and I were called upon to attend a ceremony on the Palace Grounds, where a French general presented us with medals and kissed us on both cheeks—much to the amusement of my staff.

Major de Seversky called at my office to tell me the War Department had forgiven him and promised to assist in the creation of an autonomous air arm in a Department of National Defense, despite Navy objection. I suggested he not bet on it.

A change of scene and a new set of characters entered upon the scene with the advent of May 1945. Roosevelt was dead, soon followed by Mussolini and Hitler. Germany surrendered on the 7th. The time had come for us to recast our headquarters in Europe, liquidate the air war there, and heat up the war in the Pacific.

French general chewing my ear at the presentation of the Croix de Guerre, 1945. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

The orderly process of closing shop in Europe was hampered by swarms of politicians, sightseeing, fault-finding, or intent on legitimate business. A senate committee headed by Brewster and Kilgore expressed amazement at the vastness of the technical service command operations.

General Spaatz decided to shift over to the staff type of organization as being better fitted to the new, custodial functions now in effect. I turned my administrative duties over to General Curtis and prepared to leave for my new assignment as commanding general of the technical service command at Wright Field. General Anderson was released to return to Washington for duty as the personnel director on General Arnold's Staff. Word came from General Anderson that I had been posted for promotion to lieutenant general, when I should report in at Wright Field—this, I did not consider likely.

At a meeting with Secretary Lovett on the 1st of June, I suggested we round up a group of German scientists for use at Wright Field, where I could make use of their brains instead of their bodies, as Secretary Morganthau advocated.

My plans to pack up were altered when General Spaatz informed me he was leaving for a conference in Washington, and I was to remain in charge of the store. I took this opportunity to fly down to the area near Salzburg, and Friedberg in Upper Austria, where the Knörr Von Rosenroth family originated.

The flight across France and Germany was a delightful contrast to the recent war. The patchwork of summer tinted fields, with houses grouped in villages, central to cultivated areas, stretched away to the horizon. Here and there, sunlight glinting off a lake, or a ribbon of stream, now replaced the flash of anti-aircraft fire. Peace and plenty prevailed again; for how long, I reflected, before the menacing monolith to the east would covet this beautiful land.

General Higgins, commanding the occupation forces, sent Goering's armored car to the airport to bring me, Ott, and Denniston, to his headquarters at Berchtesgaden.

The building where Hitler and his staff met during the last stages of the war was interesting. One end of a hall was devoted to a meeting room with a long table placed in the center. Comfortable chairs were still in their place with the names of Goering, Keitel, Ribbentrop, and so forth, on the back of each one. Hitler's, of course, was at the end.

Eva Braun's rooms occupied the other end of the hall—reached across flooring designed to squeak loudly with the step of an intruder.

After lunch, we were driven by jeep up a very steep road to the "Eagle's Nest" at the top of a peak overlooking the valley and village of Berchtesgaden. The slave-built road ended at the bottom of an elevator shaft. The upper end of the shaft opened directly into the "Nest"—road and building constructed with slave labor. A goat trail connected the road to the building above.

The trail led into the kitchen, beyond which, we came into a large semi-circular living room, still furnished as Hitler had left it. A log-size fireplace occupied the side of the room opposite big plate glass windows that gave breathtaking views of the Stein Pass Alps. An arm of the Koenig Sea, visible beyond a shoulder of the mountain, added a turquoise relief to the otherwise somber scene. One could have illusions of Wagnerian grandeur in such a setting. I had an atavistic feeling I had lived among these mountains and lakes at some time in the distant past.

While waiting for our airplane to be serviced, I succumbed to the victor's ancient habit of taking something of the enemy's arms: I cut the Luftwaffe emblem off the side of a fighter plane abandoned on the airdrome—somewhat, after the Indian custom of lifting the white man's hairpiece.

At Wiesbaden, I found Dace homesick and discouraged. The war was over, and he was waiting for his turn to go home. His engineering and military career was typical of the citizen-soldier called from the pursuit of health, wealth, and happiness, to assist his brothers in arms in pursuit of an enemy. Dace had participated in digging the Panama Canal, and more recently, was doing design work on the Bonneville Dam. He served in both world wars and was severely wounded while with the 6th Engineers in World War I.

Brother Dace was a year and a half younger than I, and consequently had a rough time of it growing up. Very frequently, among our playmates, he was the victim of practical jokes, experiments, and so forth. He was abandoned when some of us older boys did not want him tagging along. I shudder when I recall the time we induced him to crawl out the attic window to make a parachute jump with an umbrella . . . mother grabbed him just in time.

Dace was even-tempered despite the red hair that faded away to brown and disappeared altogether with the passage of time. Sometimes, I envied him for having father's patience, while I had to struggle with mother's more aggressive heritage.

Upon my return to St. Germain, I received word that General Spaatz wanted to see me. At Park House, I found Secretary Lovett and several others for the purpose of discussing postwar problems. One of the subjects was my command at Wright Field. General Spaatz had learned, while in Washington, that General Arnold intended to send General Chidlaw out to Dayton to be my deputy. While I had no personal objection to my friend Chidlaw, I did object to this alteration of the original agreement that I could pick my own deputy. I stated my objection in certain terms and declined the assignment.

On the 14th, we closed our residence in St. Germain. Ours had been a happy group—quite a contrast to the German occupants, according to the servants who were moved to tears at the prospect of our leaving. Henri, the chef, managed a severe attitude, largely I think, because I had placed scales in the hallway to the dining room when his cuisine began shrinking our uniforms.

The 14th of May was a great day—we were homeward bound! We were happy to leave the trials and frustrations of a great war behind us, and eager to face the challenges of the war in the Pacific. Many American and British friends were at the airport to cheer us on our way; I felt abashed when several British members, of whom I had been critical, were there to wish us well. I had been annoyed to distraction at times by their casual attitude in dangerous situations, but I never lost my boundless admiration for their steadfastness in the presence of overwhelming odds.

We took off at 1000 hours in two B-17s, loaded to the limit with personal property, official records, and technical loot from German laboratories. Captain Black piloted my airplane, and Rex Robinson piloted the other. Kane, Ott, Denniston, and Altick were passengers. We laid a course for the Azores to avoid a storm along the shorter Iceland route. By the time we reached cruising altitude, the sweep of the French Coast and England had dissolved into the haze over the western ocean. Most of the flight was over a cloud blanket; when we dropped through over the Azores beacon, the airdrome was directly below—always a pleasant surprise.

The flight from the Azores to Newfoundland was uneventful until the approach to the airdrome at Stephenville, Newfoundland. There, in the half-light of early evening, the granite terrain disappeared up through the 800-foot cloud base. Darkness fell before we reached the vicinity of the airdrome. The landing approach was a hairy experience until the runway lights broke through the drifting fog. We were relieved to hear Robinson check in close behind us.

After several hours rest and servicing of the airplanes, we took off for Washington. I unloaded my baggage at Bolling Field and turned the airplane over to Kane for delivery at Dayton.

I hurried on out to the Westchester where I anticipated a warm welcome, free of worry and tension. To my dismay, no one answered my knock at the apartment door, and I had no key!

While I was pacing the corridor, wondering what to do, Hazel bounded out of the elevator, triumphantly waving a pound of bacon which she had gone out to get with ration stamps hoarded against my homecoming. Before reporting in, Hazel brought me up to date on matters she could not write about. I was concerned about one item, where a G-2 Agent of the War Department constantly harassed her about her letters to me through the diplomatic pouch and my replies to her. Apparently, a bounty hunter was after my scalp.

Hugh J. Knerr. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Notes

1. Knerr mentions the Namur Area where four armies were swarming across the Rhine. Namur is in Belgium on the Meuse. He may have meant Remagen, which was the initial Allied crossing point over the Rhine (see mention of Remagen).

Chapter 17

Air Technical Service Command

1945–1946

General Eaker, Arnold's executive at the Pentagon, informed me that arrangements had been made for me to select my own deputy, and to operate the technical command within policies announced by Washington Headquarters. He also told me my promotion to lieutenant general would be announced shortly. I told him I was not interested in promotion so long as I could get results in my grade of major general. I did not intend to remain on active duty after the end of the war. There was no good reason why I should, since I had forced my way back, only to assist in fighting a war now nearing an end. There were eager career officers who could use that promotion to the advantage of the Air Service. I was eager to get back to my civilian objective of developing a self-supporting air freight industry that could respond promptly to military requirements.

When I arrived at Wright Field, I was surprised to see an immense sign across the front face of the main building: "US NAVY DEPARTMENT." When I learned that the Navy had a small office on the second floor for the procurement office, I ordered the sign taken down.

My former secretary, Mrs. Alberta King, was still established in the commanding general's office; now things would run smoothly. The only item I added to the spartan office was a large bust of Hitler I liberated from Germany for the Air Force Museum. I stuck a cigar in the corner of the mouth where some soldier had shot him; this reminder of a sadistic dictator was placed where visitors would come face-to-face with it when they entered the office—it gave friends a laugh and threw others off balance.

Lieutenant General Knudsen was absent when I took over the command on the 20th of June 1945. The cordial welcome extended to me by the military and civilian community was a pleasant experience. Old acquaintances at the Engineers Club in Dayton, including Orville Wright and Colonel Deeds, made me feel like a returning prodigal son of the Knerrs.

Air Service Technical Command, Order #20-1, did away with the traditional staff, G-1, 2, 3, and 4. Instead of one deputy, I designated one each for personnel, intelligence, plans, supply, and engineering. I charged each with command responsibility within their jurisdictions and coordination with the others on matters of mutual concern. I retained the responsibility to settle disagreements. The game of passing the buck disappeared . . . there was no doubt now where it stopped. Paperwork was reduced to a trickle.

General Knudsen was a good factory manager, but a military organization was a strange monster to him. I knew what the secretary meant when he urged me to hurry out to Dayton; the deputy commander, General Myers, was in financial trouble and about to be tried.

I found nothing significant had been done to expedite the shift from Atlantic to Pacific logistics—preparation of a Pacific Air Logistics plan was a matter of urgency. We had a plan ready after ten days of intensive study. With General Rawlings as a passenger in my B-17, we left for Hamilton Field to pick up a navigator for the Transpacific flight—when Japan got the news she threw in the towel?

Back at Wright again, Secretary Lovett addressed the Air Technical Institute graduating class of 1945. I took the opportunity to recommend that the Institute Air University, Montgomery, Alabama, be included. This was done.

General Frank stayed with us overnight on his way into retirement, after serving on the Roberts Board Investigation of the Japanese Pearl Harbor attack. He was quite sure the true facts would be suppressed to cover up the gross negligence in Washington.

By fall, the command had settled down to the routine of peacetime operations. We held a fair on Wright Field in October to acquaint the public with the weapons it had paid for. The fair turned out to be a huge success. One hundred thousand people passed through the gates. The diorama of the atomic attack in Hiroshima attracted the greatest interest. Our remaining chore was the disposal of the 6,000 tons of left overs from the war . . . and nitpicking politicians looking for publicity over possible waste . . . they found none.

A Letter of Commendation from General Arnold was delivered to me on the 17th: "The contributions of your command represent one of the greatest ever to be made in the history of aviation."

I also received a telegram from General Spaatz: "It is a great personal disappointment your name was not among those given a General Officer rank."

This meant I would be demoted and retired in the grade of lieutenant colonel, right where I had left off when I volunteered for the war. I surmised this action had come about through influence at the White

House, where all general officer nominations must be approved. I was grateful, however, for the expressions of confidence from the top commanders of the Air Corps. Obviously, they had been overruled.

When General Eaker arrived at the fair, I told him I wished to retire at once and recommended that General Twining take over the command, which would give the command a qualified lieutenant general. This was done promptly.

Pleasant incidents of the summer included a chat with General Eisenhower when he passed through Dayton on the 12th of June. I went down to the station to meet him and offered the facilities of Wright Field. When the train stopped, he saw me through the window of his special car, waved, and came out onto the platform with a cheery greeting: "Hey there, Hugh! One of my old gang, by golly! I am glad to see you again. How are things going?" Mamie and son, John, came out to wave a greeting as the train pulled out of the station.

Hugh related an amusing incident when he and Sallie paid us a visit; some months before the end of the war, he had warned the captain of the Portsmouth, New Hampshire, Naval Base, that German submarines in the vicinity could easily destroy his submarines at the outfitting dock. When no heed was paid to his warning, he gathered a half dozen of his men, borrowed a rowboat at the city dock, and issued red discs marked "BOMB." At midnight, when the overtime labor force left the Yard, they raided the Base disguised as laborers. No one challenged. Even the guardhouse at the gate got a disc, along with the submarines, fire department, machine shops, etcetera. When the commanding officer came out of his quarters in the morning and saw a disc on his front door, the sky fell in.

Chapter 18

Joint Chiefs of Staff

1946–1947

In Washington to pick up my retirement papers, I found a War Department Order #308, 27 December 1945, that detailed me to the Strategic Planning Committee of the Joint Chiefs of Staff.

On 29 January 1946, General Eisenhower, chief of staff of the Army, informed General Spaatz, commanding the Army Air Force, that Admiral Nimitz, chief of staff of the Navy, wished my detail to the joint chiefs cancelled. He wished it cancelled because "of my well-known views on the value of battleships and carriers; I would not have an open mind for strategic planning." I wondered whether the admiral could be considered free of any responsibility for the brilliant planning that had resulted in sinking our Navy at the dock in Pearl Harbor!

The United States first broke the Japanese diplomatic and military codes in 1920 . . . twenty-one years before Pearl. The Navy had monitored this traffic for years; that ranking officers had no knowledge of these facts is beyond the elastic limit of credibility, particularly since the most recent codes clearly showed the intent of Japan to attack.

I bore no malice toward the admiral. I felt chagrined, however, that the head of the Navy had nothing better to do than to continue the vendetta against me and the Air Force, because of our "well-known" activities on behalf of airpower and an autonomous Air Force.

General Eisenhower asked General Spaatz what he wished done about this interference in War Department matters, and to tell me he did not share the admiral's opinion. He informed me he would support my retirement as a general officer, instead of my pre-war grade of lieutenant colonel. I suggested that my name be withdrawn rather than create even a minor disturbance with the fight for a separate air arm imminent.

Here, again, I found myself on those familiar "horns," I was sorely tempted to throw in the towel and get away from all the postwar pettifoggery, but somehow, I could not bring myself to admit defeat.

The Navy veto of my detail to the Joint Chiefs of Staff was most disturbing. Although I harbored no ambitions for further advancement in the military establishment, I did resent this left-handed compliment. I repressed the old urge to fight the problem and examined it for obscure values. Experience had taught me to look at the trees in a forest . . . and not just at the forest; to see the texture of the bark, leaf, and blossom; to relish the shade, instead of complaining of the heat.

When General Spaatz suggested I remain on duty to assist in liberation of the Air Force, I decided to disappoint the admiral, and not just go away. The thought occurred to me; we could take a leaf out of the Navy's book by creating an Air Force Board like their General Board. The Navy had found their board to be useful as a guide for their political arm, the Navy League, and to influence Congress in contacts with the steel industry. Why not cast the aircraft industry in a similar role for the Air Force?

General Spaatz approved the idea and instructed me to organize such a board. I got in touch with outstanding executives in the industry and an equal number of retired Air Force generals, for the board. All readily accepted the invitation, and appropriate orders were issued. I was made the secretary general.

The Air Board met when enough material had accumulated to justify the attendance of busy executives from many parts of the country. Invaluable assistance was rendered on this task by my clerical helpers, Jim Carver and secretary, Miss LaVeque. The briefs we prepared were discussed at meetings of the board and reduced to concise recommendations for General Spaatz's consideration and disposition as he saw fit.

Other chores incident to the ferment for creation of a Department of National Defense, containing an autonomous Air Force, included details as the Air Force representative of the Bolte Board, the Haislip Board, the Unification Board, and special assistant to the secretary for air, Stuart Symington.

Many bills were introduced in Congress for unification of the Army, Navy, and an Air Force. All failed because of determined opposition by Navy witnesses, including Admirals King, Halsey, Nimitz, and the president's chief of staff, Admiral Leahy.[1] Their arguments were ridiculous at times. Admiral Turner revealed the Navy's concern for prestige when he testified:

"I believe the Navy as a whole objects to so-called unification because the Navy will be a numerical minority, the Army and Air Force will be a military scattered throughout the country and in a better political position than the Navy."

I was disappointed to see my friend, Turner, miss the mark of national defense so widely, but admired his partisan attitude in defense of the service of his choice.

President Truman became impatient with the failure of Congress to provide adequate national defense. He told Congress:

> Air Power has been developed to a point where its responsibilities are equal to those of land and sea power, and its contribution to our strategic planning is as great. Parity for Air Power can be achieved in one department or in three, but not in two. As between one department and three, the former is infinitely to be preferred.

The Air Force had enjoyed an autonomous status within the Army during the war, but this would terminate six months after the end of hostilities, at which time, it would revert to the status of a Corps within the Army, like that of the Quartermaster Corps, Signal Corps, and the Engineer Corps.

The atmosphere became very tense during this period with prenatal pains of an autonomous Air Force. My status as the special assistant to the secretary for air in the War Department, Stuart Symington, gave me an opportunity to observe the Navy's phobia against a separate air arm—even to the creation of an agency to oppose it. Secretary Symington, as a gesture for harmony, asked me to call on Navy Secretary Forrestal to show him I had no horns and to discuss our mutual problems. Secretary Forrestal had little to say in response to my suggestions and nervously puffed on his pipe during our interview.

I could not rationalize the attitude of the Army and the Navy, each intent on being top-dog in the defense establishment, but cooperative in discouraging the creation of a US Air Force—not unusual in big families. The Pentagon housed a big family, but far from a happy one. The Army appeared to me to have the role of a fussy old grandmother; the Navy, that of a pompous grandfather; and the Air Force, a redheaded brat feeling his oats.

I found the frustrations, hazards, and instability within the military family to be more than compensated by the feeling of comradeship, no matter how much one might disagree with another. Further, the vast majority had a concept of mental, moral, and monetary integrity, different from that which I had experienced as a civilian.

Secretary Symington unwittingly noted this difference one day while we were discussing creation of an Office of the Comptroller in the Air Force: “The difficulty we have here is, we have no profit index for rating efficiency in the military services”—what a compliment!

The attainment of affluence seldom enters the military mind. So long as an officer can pay his current bills, he is content to keeping his mind on his duties, knowing that retirement is part of his compensation. Rank is the device for determining his responsibilities, not an employer’s profits. I would unhesitatingly choose the military career again, despite the embarrassment caused by being made the whipping boy occasionally by self-centered politicians.

In response to the president’s message, a Bill S-2044, known as the Common Defense Act of 1946, was introduced in Congress. The Navy’s objection clearly indicated their determination to get the strategic air mission as the means for dominating national defense.

President Truman was a determined man. He initiated action on 13 May 1946, to establish a Department of National Defense. He demanded a stop to the time-consuming arguments and presented his own program for unification of the military services. Congress took its time but finally passed the National Security Act of 1947 on the 26th of July. On the 18th of September, the US Air Force was established within the Department of the Air Force. The long, hard battle for airpower had been won.

Stuart Symington was sworn in as the first secretary of the Air Force on 26 September 1947, and General Spaatz as chief of staff of the Air Force. The ceremony left me with a sense of relief that the crew of a ship must feel when their vessel is docked safely after a stormy passage.

The internal organization of the Air Force was worked out without delay. General Bolte, the Army representative, and I, the Air Force representative, reached an agreement for the joint use of many facilities; the Navy refused to cooperate.

Prompt action was taken to equip the Air Force with a distinctive uniform. The nature of the matter generated much discussion and conflicting ideas. I found myself in opposition to General Vandenberg, who favored a dark blue with gold buttons. My suggestion, a light blue with antique silver buttons would be more practical in working with airplanes was adopted.

On the 12th of December 1947, the secretary informed me I had been selected to work out an organization for the office of an inspector general for the Air Force, and that I would be the first inspector general . . . with no option to retire at that time. I agreed to undertake the job, provided no one attempted to look over my shoulder and kibitz. I suggested this should be the last stable for me to tidy up. I was beginning to feel like a handyman around the house.

Notes

1. Official History of the United States Air Force.

Chapter 19

US Air Force Inspector General

1947–1949

My assignment to create the Office of Inspector General, US Air Force, gave me a free hand to work out an organization for approval by the secretary, Department of the Air Force.

Experiences with inspector generals had convinced me the established concept of the office was wrong . . . aimed at finding fault. I decided to turn the whole system upside down and view it from the bottom, rather than from the top. My objective would be to give local commanders the tools with which to insure their efficiency.

The organization was ready for review early in 1948. It included an Office of Special Investigations (OSI); in charge was Mr. J. F. Carroll, an operator on loan from the Federal Bureau of Investigation; an Office of the Air Inspector, headed by Gen St. Clair Street; and the Office of the Air Provost-Martial, under Col "Matt" Dillon. In general terms, the inspector general inquired into all phases of Air Force operations, the OSI provided investigative services to the base commanders, the air inspector reviewed the status of training in the Air Force, and the provost-martial checked on security matters. None of these agencies exercised executive power; they called attention to deficiencies for correction by local commanders and provided copies to the Office of the Inspector General for further action by the command echelons of the Air Force, if needed.

The office-based instruction proved to be so effective, Mr. Carroll was commissioned a colonel to facilitate his contacts with military organizations. He became so efficient in that grade; he was promoted to brigadier general. Later, he was advanced to major general and lieutenant general.

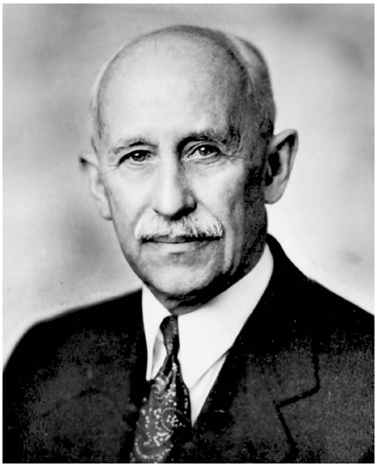
Personnel to man the inspector general function were provided promptly. General Street established the air inspector activities without difficulty. Colonel Dillon found ready acceptance of his air police.

Decentralization of operations to the three directorates enabled me to give proper attention to the many special situations which arose in connection with other departments, as well as within the Air Force. I attended congressional hearings when the secretary so desired.

The Inspector General US Air Force 1949, *Left to right:* Carroll, Knerr, Dillon, Laferty. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

On the 27th of January 1948, Hazel and I attended a reception at the White House given by president and Mrs. Truman. When we were presented, the president recalled my activities with a pleasant comment.

On the 30th of January, we were saddened by news of Orville Wright's death. The last time we saw him at his home in Dayton, he presented Hazel and me with a fine autographed photograph of himself.



"To General and Mrs. Hugh J. Knerr with cordial good wishes, Orville Wright" The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Secretary Symington suggested that I take a physical examination at Walter Reed Hospital to determine my fitness for normal duty. I wondered what the secretary had in mind . . . I passed the examination without difficulty. Later, I learned he wanted me, as the inspector general, to have the rank of lieutenant general. Gen Omar Bradley, chief of staff of the Army, objected on the grounds the other two services got along with major generals.

Secretary Symington was not discouraged in his desire to clothe the inspector general with the rank the new Air Force required in its worldwide activities. On the first of April, he transmitted proposed legislation to the Senate Armed Services Committee to make the Office of the Inspector General a statutory position, headed by an ex officio lieutenant general. That effort also failed.

On the 20th of April, I attended a ceremony at the British Embassy where the ambassador in the name of King George VI presented me with the Medal of the Most Honourable Order of the Bath Military Division.

The proposed Air Force Academy caused considerable discussion at this time. I contributed a new thought with the suggestion that the present military academies be re-established as two-year postgraduate military institutions for graduates of the Reserve Officers' Training Corps units at designated colleges and universities. My article on the subject, published in *Nation's Business,* caused a lot of sword waving from the other academies, and a few snorts from the Air Force. When General Spaatz asked if I had any objection to an orthodox air academy, I assured him I had none on a par with the military and naval academies. I merely wanted to ventilate the present, archaic, system of military education.

Cargo transport aircraft had been in my mind ever since I experimented with the idea while in command of the Second Bombardment Group. Reliance on the airlines for use of their aircraft in an emergency was unrealistic. I overlooked no opportunity, including testimony before congressional committees, to urge development of cargo aircraft for use in daily commercial operation big enough to transport entire military units with their full military equipment to any troubled spot anywhere in the world. The idea was premature.

The airplane that made the first successful flight at Kitty Hawk was presented to the Smithsonian Museum on the 17th of December 1948. I am one of the fortunate few to receive a piece of the original fabric from that airplane.

On the 3rd of June 1949, a second Distinguished Service Medal was presented to me by General Vandenberg, the new chief of staff of the Air Force, in the office of Secretary Symington before a gathering of military and civilian friends. I was most happy to see Kenneth Bitting in the group; he came—east from his home in St. Louis to attend the ceremony.

In September, I turned the Office of Inspector General of the Air Force over to Lt Gen Howard Craig after being held on duty for six months past the retirement age of 62.

I was retired on the 30th of October 1949 and reverted to my prewar grade of lieutenant colonel. When a law was passed for the benefit of certain political figures, anyone who had served for six months or more in the war could retire in the highest grade held; I was swept along with the tide and retired a major general after forty-five years of service in the Navy, the Army, and the Air Force—thus, all was well that ended well.

Maj Gen Hugh J. Knerr, Inspector General, US Air Force 1947–1949. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

To shift from high to low gear was not easy. The war years and subsequent activities had wound me up to high speed. The Pentagon had become a second home to me. My military and civilian associates were like a family dedicated to the safety of our Country. The unique situation where General Witsell, the adjutant general of the Army, and I, the inspector general of the Air Force, were brothers-in-law, accentuated that feeling.

When I emerged onto the terrace in front of the Pentagon, I recalled the day of forty-five years before, on parting with the family at Atchison, the wide Missouri had seemed to be an ominous barrier. Today, another river, the broad Potomac, invited me to cross over and join Hazel beyond the temples of Washington, where the Severn meets the sea. My work was finished. At last, I could go home.

Epping Forest, 1949 "at home." The end of a long journey, 1904–1949. The Papers of Maj Gen Hugh J. Knerr, Courtesy of the Clark Special Collections Branch, McDermott Library, USAFA.

Abbreviations

AAF	Army Air Force
AFSC	Air Force Sustainment Center
ASC	Air Service Command
BADA	Base Air Depot Area
ETO	European theater of operations
GHQ	general headquarters
OBI	office based instruction
OSI	Office of Special Investigation
RAF	Royal Air Force
SOS	services of supply
USAFA	United States Air Force Academy
USS	United States Ship
USSAFE	United States Strategic Air Forces in Europe
USSTAF	United States Strategic Air Forces
WIP	work in process

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In the past century, few have done more to establish the Air Force and its logistics enterprise as we know it today than Maj Gen Hugh J. Knerr; fewer still are as unique. An early aviator, Knerr established the first airlift mission and led the procurement effort for the B-17 with Gen Frank Andrews before WWII. After which he led a campaign for the autonomous air force that put him at odds with the War Dept and the White House.

During WWII, Knerr led logistics planning efforts to mobilize the Eighth Air Force in European Theater of Operations (ETO) and later amassed theaterwide authority of logistics, aligning the entire logistics effort of the Army Air Forces (AAF) in the ETO.

Among many career accomplishments, Knerr ended his career as the USAF's first Inspector General establishing the Office of Special Investigations (OSI) and is accredited with designing the USAF's dress blue uniform. Little known fact, Knerr's aviation interests began as a child at the mouth of the wellspring, building kites and scrubbing toilets for the Wright Brothers at their bicycle shop.

His memoirs penned in the months preceding his death in 1971, now published, give a personal insight into this formative period of the Air Force and offer the perspective only one of its architects could tell. Further, his pursuit of innovation, disruption of barriers, and challenges to the status quo are exceptionally relevant to the present day Air Force as it seeks to accelerate change.

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