General of the Air Force
Henry Harley "Hap" Arnold

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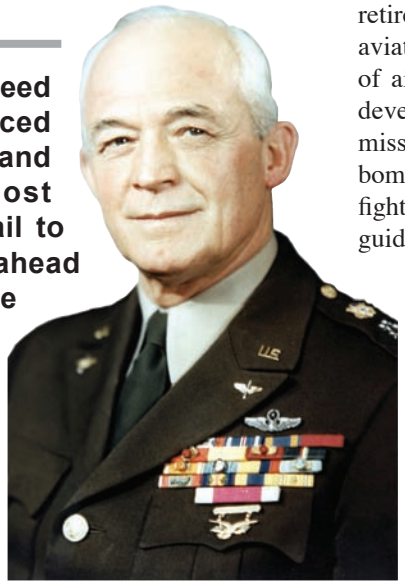


Five-Star General of the Air Force Henry Harley "Hap" Arnold was known for his smile.

However, on Aug. 17, 1945, his face was stern as he called a press conference in the War Department headquarters in Washington, D.C., to discuss "the future." Many in the press of that era described General Arnold's conference as "the most important pronouncement in all his years of press conferences."

General Arnold, who entered West Point as a young cadet in 1903, the same year that the Wright brothers flew the first powered, heavier-than-air craft at Kitty Hawk, North Carolina, was about to make one of the most important declarations about the future of air dominance and security that the nation would ever hear.

Ironically, it was the love of horses and the thunderous charge of the horse brigade coupled with the wide gold stripe upon uniform pants that drove his desire to become a member of the calvary.

Then, 42 years later, it was the roar and "horsepower" of the military's finest aircraft and his desire to ensure the future of the Air Force that led to his concluding paragraph in that momentous press conference.

Arnold stated,"... Most important of all, we will need an ably staffed, adequately financed and properly equipped research and development program. I say most important of all because, if we fail to keep not merely abreast of, but ahead of, technological development, we needn't bother to train any force, and we needn't make any plans for emergency expansion; we will be totally defeated before any expansion could take place."

These words came three days after V-J Day, more than two weeks before the Japanese surrendered aboard the battleship *Missouri* and the day before Arnold announced his plans to retire. The story of his life as an Army aviator is the story of the evolution of airpower from its infancy to the development of the first long-range missiles in 1918, the first long-range bomber in 1934, the first American jet fighter in 1941, and the first television-guided bomb in 1943.

Henry Harley "Hap" Arnold was born on June 25, 1886, in Gladwyne, Pennsylvania. His father, Dr. Herbert A. Arnold, wanted his son to be a minister, but that didn't really excite the boy's interest. Arnold managed to obtain the West Point appointment his father had arranged for his oldest son, Tom, who chose to stay at Penn State to get an electrical engineering degree.

Much like his nickname thought to be "Happy," Arnold was elated to leave the small town and carry on the family's military heritage. He became a member of the Black Hand,

Arnold as a West Point sophomore in 1905.

Top, a 25-year-old Arnold sits at the controls of a Type B two-seater Wright plane while learning to fly under instructions of the Wright brothers at their school in Dayton, Ohio, in 1911. Middle, Arnold and Thomas DeWitt Milling, in 1931. Bottom, Arnold was the first recipient of the Mackay Trophy in 1912. He won a second in 1935.

a secret organization that managed to keep him in the bottom quarter of his class in discipline. He culminated his career as a prankster by setting off a barrage of fireworks from the roof of an academy barracks – a prank that earned him solitary confinement in his room during visitors' day and cost him the opportunity to visit with the future Mrs. Arnold, Eleanor Pool.

Arnold expected to be assigned to the cavalry upon his graduation in 1907 but found himself in the infantry instead. Interestingly, aviation was his fourth choice.

Accompanied by his congressional representative and one of Pennsylvania's senators, he appeared before the Army Adjutant General, demanding the assignment be changed. The general told him that only the Secretary of War could do that and he was in the Philippines.

Arnold immediately volunteered to go there. He missed the Secretary but found himself in an exciting new job: surveying.

For two years, Arnold tramped through the jungles of Luzon and Corregidor preparing topographical maps. He lived the life of an explorer, setting up base camps to work from and living off the land. It was excellent training because he and another lieutenant were basically responsible only to themselves and had the freedom to do the job the way they saw fit.

He left for his next assignment at Governors Island, New York, in 1909, and made the long trip home via Hong Kong, Singapore, Cairo and Paris.

In Paris, he saw an airplane for the first time and was unimpressed. His interest didn't grow even with such luminaries as Glenn Curtiss and the Wrights flying around the level fields of Governors Island. But, a chance opportunity whetted his appetite.

Concerned with promotion to first lieutenant, Arnold took an examination for an opening in the Ordnance Department. While he awaited the results, the War Department asked if he would be willing to become a pilot. Arnold was unsure and asked his commander for advice. The senior soldier told Arnold he knew no better way for a man to kill himself. Arnold sensed the kind of adventure

(Left to right) Capt. Frederick Hennessy, Lt. Henry Arnold, Lt. Roy Kirtland, Capt. Frank Kennedy, Lt. Samuel McLeary, Lt. Harold Geiger, Lt. Thomas Milling and Lt. Louis Rockwell at College Park, Maryland, in 1911. Lieutenants Arnold and Milling were the first to qualify as military aviators, along with Capt. Charles Chandler.

he had loved in the Philippines and immediately accepted the Army's offer.

Arnold and Lt. Thomas DeWitt Milling arrived at the Wrights' bicycle shop in Dayton, Ohio, in 1911. After extensive training on the ground, Arnold made his first flight on May 3. It lasted seven minutes.

For the next 10 days, he practiced under the watchful eyes of his instructor, Al Welch, and the local undertaker, who sat on his wagon awaiting the inevitable each day. After logging three hours and 48 minutes of flight time, Lt. Arnold received his badge as Military Aviator Number 1.

In 1912, Arnold received the first Mackay Trophy for flying a 42-mile triangular circuit and for establishing a new world altitude record of 6,540 feet. Later that same year, after surviving a horrible crash, he decided to quit flying. He had seen too many friends die, and his nerves were shot. This decision greatly relieved his fiancée, Eleanor. The two were married in 1913.

The couple spent the first three years of married life in the Philippines before returning to Rockwell Field, California. Surrounded again by airplanes, Arnold got flying fever. His wife could no longer stand to see him in so much anguish and encouraged him to fly again. It was all the encouragement he needed.

When World War I broke out in Europe, Arnold was in Panama. He was recalled to Washington to be the chief of the Information Division and, in 1917, became Assistant Director of Military Aviation – the youngest colonel in the Army. He fought hard to get into combat but was turned down because he was indispensable in his job. He always remembered this frustration and made it a point in World War II to get everyone he could some combat experience.

He reverted to his permanent rank of captain after the war and served in various jobs in California, ending up at the Presidio of San Francisco as the aviation officer for the west coast. Promoted to major, he returned to Rockwell Field in San Diego as commander. There he encouraged Lieutenants Lowell Smith and Paul Richter in developing aerial refueling. The first air-to-air contact refueling took place in June 1923.

In 1925, after graduating from the Army Industrial College, he returned to Washington. There he found himself in the middle of the biggest military trial of the century: Col. Billy Mitchell's court martial. Arnold plunged headlong into the trial, testifying in Mitchell's behalf. When the trial was over, he got his reward for speaking out: "exile" to Ft. Riley, Kansas.

In 1928, Hap attended Command and General Staff School at Ft. Leavenworth. It was not a happy year for him, and he became more and more restive as graduation approached. On the final day, he had Eleanor and their three boys waiting in the car with the engine running. As soon as the ceremony ended, he bolted down steps, jumped in the car and drove out the gate as fast as he could. Their destination: Fairfield Air Depot, Dayton, Ohio.

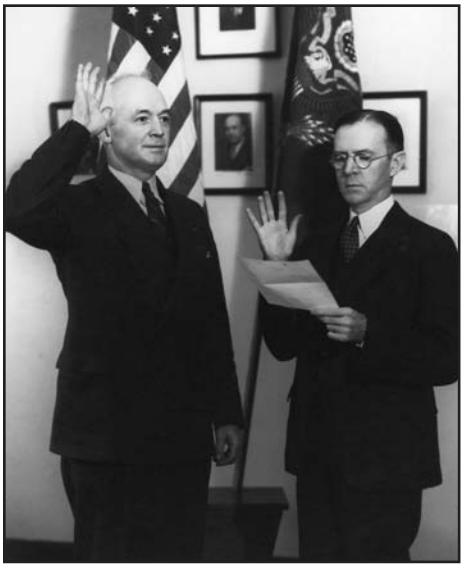
Fairfield was the home of one of Billy Mitchell's few mistakes – the Barling Bomber. It was the first big bomber and that was its major drawback. Its state-of-the-art engines had too little power, and it couldn't even gain enough altitude to surmount the Appalachian Mountains. Arnold tried desperately to get rid of the plane through official channels, but it was such an embarrassment to the

Then Lt. Gen. Arnold with Brig. Gen. Jimmy Doolittle. Doolittle, who led the first bombing raid on Japan and would later work for a superior airframe research and development program.

The meeting between General of the Air Force Henry "Hap" Arnold and a young Dr. Theodore von Kármán in 1923 would later play a role in the 1945 report, *Toward New Horizons* which became the "blueprint for Air Force research and development." In this photo, Arnold awards von Kármán the Meritorious Service Emblem after the Scientific Advisory Group's (SAG) first year.

bombardment advocates that Army leaders refused to scrap it. Arnold was not one to stop at a simple "no" answer. If he couldn't get rid of the plane with approval, he'd find some other way. He sent an obscure message requesting permission to scrap "one obsolete bomber" and received approval. It wasn't long before a mysterious fire broke out in the hangar that housed the Barling and completely destroyed both building and plane.

In 1931, Lt. Col. Arnold became the commander of March Field, in Riverside, California. While there, he arranged for the purchase of a huge chunk of the Mojave Desert. He used the Muroc Dry Lake area for training his pilots in combat operations, both air-to-air and bombardment. The land he purchased later became Edwards Air Force Base (AFB).



In September 1938, Arnold was sworn in as the Commander of the Army Air Corps.

After commanding the western sector during the "Air Mail Fiasco" in 1934, Arnold led a flight of 10 B-10s from Dayton to Fairbanks, Alaska. On the return trip, the planes flew non-stop from Juneau to Seattle, entirely over water. The press coverage helped massage the bruises the Air Corps had received in its bout with the air mail, and the flight was topped off by Arnold's second Mackay Trophy.

On Feb. 11, 1935, Arnold received his first star, skipping the rank of colonel, due to expansion of the Air Corps rank structure associated with the activation of General Headquarters (GHQ) Air Force. In January 1936, he returned to Washington as Assistant Chief of the Air Corps to Maj. Gen. Oscar Westover and replaced him as chief when Westover died in a plane crash in 1938. This was to be Arnold's last job in the Army – he would be Chief of the Air Corps until his retirement in 1946.

His work during wartime made him a legend in both military and civilian circles. He opened Officer Candidate Schools in Miami Beach hotels that had been emptied by the war, cajoled civilian flying schools into training pilots for the Army long before funds and official approval were available and constantly pushed aircraft manufacturers for more and better equipment. His subordinates called him "Do-it-yesterday Arnold" and he was known to stop junior officers in the hall, tell them to handle a problem and disappear.

In 1923, General Arnold was introduced to Dr. Theodore von Kármán, a Hungarian scientist who later became an instrumental figure in the development of AEDC.

Arnold had found the aeronautics tutor he needed. He became dependent upon von Kármán to inform, educate and guide him during his years in command of the Army Air Corps, later called the Army Air Forces (AAF).

Their relationship grew, and near the end of World War II Arnold asked von Kármán to direct a study of military aeronautical technology and its future, considering the state of the art in Germany, Japan, Russia and all the countries in between them. The result led to the December 1945 report *Toward New Horizons*, which is now considered the "blueprint for Air Force research and development"

President Truman decorates Arnold on his retirement in 1946.

Arnold's widow, Bee, and sons attend the center's dedication in his memory on June 25, 1951.

and the foundation of AEDC.

The two men first met when Arnold commanded March Field. He had always shown a keen interest in science and even sent several of his officers to classes taught by von Kármán at the California Institute of Technology (Caltech). In 1939, Arnold had asked him what facilities the Air Corps needed for research.

Von Kármán told him they needed a large wind tunnel and added, "Maybe you don't wish to invest in such a large and revolutionary piece of equipment?"

"On the contrary, that's exactly what we do want, the highest combination of speed and size," Arnold replied.

Wright Field's 20-foot wind tunnel was the result. But Arnold had something bigger in mind.

He wanted the scientist to gather a group of experts to give direction to military research. And at their first meeting, he told them, "The next Air Force is going to be built around scientists – around mechanically minded fellows."

Arnold received his fifth star as a general of the Army in December 1945, the only airman ever to attain that rank.

In March 1946, he retired from active duty in an attempt to relax. Hard work had taken its toll on his once-strong body; he had survived five major heart attacks and countless minor ones.

In 1947, after the U.S. Air Force became an independent Service, President Truman made Arnold General of the Air Force. Arnold is the only Airman to hold that rank and the only five-star general to serve in two services at a five-star rank.

On Jan. 15, 1950, a sixth heart attack claimed his life.

Eighteen months later, on his 65th birthday, the Air Engineering Development Center would be dedicated in his name as Arnold Engineering Development Center – a testimony to his foresight, drive and determination. His widow, Bee, and sons attended the dedication of the center in his memory on June 25, 1951.

During his aviation career General Arnold made history. By his retirement, everyone called him "Hap," a name with dubious origins, yet while the exact origin of his nickname remains a historical mystery, his accomplishments, contributions and pioneering efforts in aviation remain a constant:

- He was the first to demonstrate how the airplane could be used for reconnaissance.
- He was awarded the first military aviator's badge and expert aviator's certificate.
- He established a world altitude record of 6,540 feet.
- He promoted innovations such as the aerial forest patrol and in-flight refueling.
- He organized and led 10 B-10 bombers on a historic flight from Ohio to Alaska, flying 18,000 miles round trip and conducted more than 35,000 square miles of aerial surveys of Alaskan territory.

Arnold was enshrined in the National Aviation Hall of Fame in 1967. He was inducted as an honorary AEDC Fellow during the 50th anniversary of the dedication of AEDC in June 2001.

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www.arnold.af.mil/shared/media/document/AFD-100323-069.pdf