APPENDIX G

HISTORY OF ARMY AVIATION

Modern Army aviation was born on 6 June 1942, a few months after the United States entered World War II. Throughout the war, and for several years afterwards, Army aviation was called organic Army aviation. This was done to distinguish it from the Army Air Force and because its aircraft and personnel were organic to battalions, brigades, and divisions of the Army Ground Forces.

The original function of organic Army aviation during World War II was to assist in the adjustment of artillery fire. During the course of the war, however, organic aviation's small fixed-wing aircraft, commonly known as Grasshoppers, came to be used for command and control (C^2), medical evacuation (MEDEVAC), wire laying, courier service, aerial photography, reconnaissance, and other purposes. The principal reason for the expanding mission of organic Army aviation was that its aircraft were accessible to ground commanders and able to operate in close coordination with ground forces. The aircraft of the Army Air Forces often were not.

Both the original creation of organic Army aviation and its assumption of additional functions during World War II provoked friction and rivalry between the Army Ground Forces and the Army Air Forces. When the Army Air Forces became the US Air Force in 1947 and organic Army aviation remained part of the Army, the friction continued and lasted until the 1970s. To avoid the expense of having two aviation organizations with overlapping functions, the War Department and later the Department of Defense (DOD) established restrictions on the roles and missions of Army aviation and on the size and type of Army aircraft.

For essentially the same reason, Army aviation's primary training and the development and procurement of its aircraft were controlled by the Army Air Forces/US Air Force for many years. These restrictions were specified in a series of War Department and DOD memoranda and by agreements between the Army and the Air Force that began in 1942 and continued until 1975. Notwithstanding the continuing restrictions on the roles and missions of Army aviation, its actual functions in combat situations continued to expand during the conflicts in Korea and Vietnam, for essentially the same reasons as during World War II.

Concurrently, Army aviation progressively became independent of the Air Force in matters of training, procurement, and logistics. Army aviation thereby evolved from a small organization with a limited combat support mission to become the principal air arm of the Army. Its expanding mission and responsibilities were reflected in the successive memoranda and agreements—usually negotiated after the exigencies of combat or extensive testing had clearly demonstrated that Army aviation was the logical provider of most of the Army's tactical aerial requirements.

Although Army aviation has continued to use some fixed-wing aircraft up to the present, its evolution to its current role and status resulted to a large degree from the development of the helicopter and of rotary-wing tactics and doctrine. While the Army Air Forces, the Navy, and the Coast Guard acquired helicopters during World War II, Army aviation did not acquire its first one until 1947. The helicopter was in its infancy during that period, however, and, aside from a very few rescue missions, was used only for testing, experimentation, and training. The Army Ground Forces, to which Army aviation was then attached, borrowed a helicopter from the Army Air Forces and conducted tests at Camp Mackall, North Carolina, beginning in 1944; however, no requirement for Army Ground Forces helicopters was established by those tests.

During the early years of the Cold War, the Army Air Forces/US Air Force gave greater emphasis than ever to strategic air operations and correspondingly less emphasis to tactical air support of the Army. The Air Force continued using the helicopter almost exclusively for search–and–rescue operations, reluctant to allocate resources even for testing helicopters for other purposes. The Navy and Coast Guard also continued to use rotary-wing aircraft only for rescue and other similar purposes. Both the Army and the Marine Corps, however, became interested in acquiring helicopters for other uses-especially in view of the growing Army perception that the Air Force had very little interest in tactical transport and close air support (CAS).

In 1946, the War Department Equipment Board determined that Army Ground Forces required four types of helicopters. The types ranged from light liaison to transport helicopters capable of carrying one to three tons and convertible to cargo, passenger, or ambulance use. Three years later, another Army board study expanded these requirements to six types with cargo capacities of up to 25 tons.

Because of the shortage of helicopters and the reluctance of the US Air Force to purchase them for the ground forces, the Army did not acquire its first helicopter, an experimental model of the two-place H–13 Sioux, until 1947. Following initial testing of this aircraft, the Army requested authorization to purchase 150 more and recommended the early development and acquisition of cargo helicopters. The Army was able to acquire a total of only 74 H–13 observation helicopters during the following three years, however, and did not acquire its first cargo/utility helicopter until 1952.

Helicopters were in short supply during the early years of the Korean conflict. In addition to this fact, the Air Force was slow about testing them and resisted procuring them for the Army. When Major General James M. Gavin requested helicopters from the director of requirements for the Air Force, he was told that "*the helicopter is aerodynamically unsound.. and no matter what the Army says, I know that it does not need any.*"

During the Korean conflict, the Army used fixed-wing aircraft for essentially the same functions as during World War II. More importantly, however, the war in Korea clearly demonstrated the potential of the helicopter, especially for MEDEVAC and tactical transportation. Although the Army was not able or prepared to employ helicopters for other missions during that period, the Marine Corps successfully demonstrated the

helicopter's value in "vertical envelopment" operations—an early version of air mobility and air assault.

Both during and following the Korean conflict, several Army leaders called for the use of helicopters in new tactical missions. General Gavin published an influential article in April 1954, *"Cavalry, and I Don't Mean Horses."* The article called for the use of helicopters in air cavalry operations to provide the mobility differential that Army cavalry forces had lacked in Korea. Much of the conceptual basis for doctrinal development of the helicopter during the 1950s came from General Gavin's vision of a *"sky cavalry"* unit.

The United States Army Aviation School moved from Camp Sill, Oklahoma, to Camp Rucker, Alabama, in 1954. Camp Rucker became Fort Rucker, and the United States Army Aviation Center (USAAVNC) was established there the following year. In 1956, the Aviation School began mounting weapons on helicopters and developing air cavalry tactics. The Aviation School technically was not in total conformity with DOD restrictions on the Army's use of aircraft. However, the School experimented with the arming of helicopters under the auspices of an Army directive to develop *"highly mobile task forces with an improved ratio of fire power to manpower."*

Colonel Jay D. Vanderpool directed most of these combat development experiments. Doctrinal development for this innovative concept was difficult. When the first doctrinal pamphlet on the new sky cavalry unit was written, Colonel Vanderpool, in his own words, *"plagiarized the last field manual written for horse cavalrymen in 1936."* Progress continued, however. By the end of 1960, the basic objective of the Army's air mobility program was that each division have the capability of moving at least one company of infantry by organic airlift.

Developments during the 1960s were considerably more rapid. During the early months of the Kennedy administration, the Army was reorganized according to the "Reorganization Objectives Army Division" (ROAD). This restructuring provided for approximately double the number of aircraft used in the previous organizational structure. Secretary of Defense Robert S. McNamara was not satisfied with this merely quantitative enhancement of the role of Army aviation. In April 1962, he called upon the Army to take a *"bold new look at land warfare mobility."* The study was to be *"conducted in an atmosphere divorced from traditional viewpoints and past policies, . . .[and] with a readiness to substitute air mobility systems for traditional ground systems wherever analysis shows the substitution to improve our capabilities or effectiveness."*

Secretary McNamara further recommended several Army leaders to take part in the study. Lieutenant General Hamilton H. Howze was included. As the senior officer, General Howze presided over the "Tactical Mobility Requirements Board," commonly known as the "Howze Board." The board completed its work in August 1962. It concluded, *"adoption by the Army of the airmobile concept is necessary and desirable. In some respects, the transition* ***is*** *inevitable just as was that from animal mobility to motor."*

The board recommended the creation of five air assault divisions in a 16-division Army force structure. Each of these air mobile divisions was to include an air cavalry squadron and to replace 2,339 of its ground vehicles with 459 aircraft.

In 1963, the 11th Air Assault Division tested the concept at Fort Benning, Georgia, and other places. In 1965, the first air mobile division, the 1st Cavalry Division (Airmobile), was organized and sent to Vietnam. Although the concept of air mobility was developed with a mid–intensity European conflict in mind, it proved to be equally valid for the low–intensity conflict in Southeast Asia.

Two other developments during the 1960s made air mobility technically feasible. They reconciled the Army's expanded use of helicopters with DOD policy and regulations. First, the turbine engine for helicopters was developed. This engine gradually replaced the less-efficient, less–powerful, and less–durable reciprocating engine in Army helicopters. Secondly, successive agreements and memoranda had chipped away at the restrictions on the Army's use of helicopters for over 15 years.

The Johnson–McConnell Agreement of 6 April 1966 authorized the Army to develop and employ rotary-wing aircraft for all intratheater purposes, including troop movement and fire support. In return, Army aviation gave up its larger fixed-wing aircraft and became, more so than ever, a rotary–wing force. From 1966 to the present, the Army has been the recognized American leader in the development of helicopters and helicopter weapons, tactics, and doctrine.

Helicopters were first used to transport Vietnamese troops in January 1962. They played an ever–growing role in the conflict in Southeast Asia from that time until the American withdrawal. With the arrival of the UH–1 (Huey), other turbine-powered aircraft, and two airmobile Army divisions, helicopter warfare became the most important innovation of the conflict. The armed helicopter in the tactical role of fire support to the infantry was developed and perfected.

Armed helicopters became essential for providing direct fire support to units operating outside the range of their direct support artillery. Because of the nature of the enemy and the proven value of the helicopter throughout the war, aviation dominated the development of infantry organization and tactics to combat the enemy's light infantry. The airmobile infantry assault supported by aerial fire remained a dominant tactic until 1971. At that time, operation Lamson 719 again raised the question of helicopter survivability on the modern battlefield.

During the early 1970s, the Army conducted a series of tests in Ansbach, Germany. The tests were to determine the suitability of air cavalry elements and the AH–1G Cobra, in particular, to operate in an antitank role in the European environment. These tests demonstrated that antiarmor helicopter teams, properly employed and trained, could achieve high ratios of armored vehicles destroyed for every missile-firing helicopter lost.

Armed scout and attack helicopters-especially when operating in nap-of-the-earth and nighttime environments-clearly were shown to have the required survivability and to be viable and essential elements of conventional mid– to high–intensity warfare. Thus the way was paved for the development of the modern attack and scout helicopters and the doctrinal principles that would take Army aviation into the next century.

The Army—in cooperation with industry-began developing the AH-56 Cheyenne and the AH-64 Apache during the final years of the Vietnam conflict. The Army's development of specifically designed attack helicopters during the 1970s again raised the question of Army and Air Force aerial missions. By this time, the Air Force was content to permit the Army to continue developing helicopters.

The Army continued to desire fixed-wing CAS from the Air Force. It was, therefore, relatively easy for the two services to agree, in 1975, that the attack helicopter did not perform CAS. Instead, it was an extension of organic firepower, and the Air Force would continue to provide CAS with fixed-wing aircraft. The two services thereby agreed to consider the two types of aircraft as complementary rather than duplicative. Since that time, there have been no serious disagreements over aviation missions and functions between the Army and the Air Force.

Throughout the mid– and late 1970s, there was an increasing need to establish a separate Army aviation branch. This step had been seriously considered as early as the mid–1950s. The idea was revived periodically. The opposition to an aviation branch was based in part on the perception that the Army Air Corps had gone its own way and abandoned the ground forces as it became increasingly independent. It was reasoned that a new Army aviation branch would likely do the same thing.

Some also opposed an aviation branch because it was believed that all combat arms branches required aviation support and could best be assured of this support with the existing system. Yet another major basis for opposition stemmed from the expected loss of large funding sources by other branches if aviation, very expensive by its nature, should become a separate branch. Finally, some prominent aviators opposed the establishment of aviation as a separate branch because it was feared that aviation, as a new but very costly branch without senior leaders, would not be able to compete with other branches for funding resources.

The opposition to an aviation branch gradually subsided. First, during the war in Southeast Asia, Army aviation had adequately demonstrated its essential role in modern warfare. At the same time, it had shown that it could cooperate effectively as a member of the combined arms team and that there was no danger in its leaving the rest of the Army behind and going its own way.

Furthermore, as aviation technology and tactics became more and more complex, it was increasingly difficult for aviation officers to be both aviation soldiers and competitive members of their respective branches of the Army. Once trained as aviators, they needed to fly or command other aviators and not spend half of their time in Field Artillery or

Infantry assignments. They needed their own basic and advanced courses in which aviation tactics would be emphasized rather than mentioned in passing.

Aviation also needed to become a branch so that there would be effective central control over the development of its doctrine and equipment. Senior Army leaders encouraged a series of studies during 1980 and 1981. These studies clearly showed, and convinced most doubters, that Aviation should become a separate branch. The US Army Training and Doctrine Command authorized the creation of the branch, and then the Chief of Staff of the Army (CSA). The effective date of the establishment of the Aviation Branch by the Secretary of the Army was 13 April 1983.

Individual aviator training was consolidated at Fort Rucker in 1973. At that time the training programs at Fort Welters, Texas, and Fort Stewart/Hunter Army Airfield, Georgia, were discontinued. After the creation of the Aviation Branch in 1983, further consolidation of aviation–related activities and training under the auspices of USAAVNC and the Aviation Branch chief occurred. Aviation officer courses were implemented at Fort Rucker in 1984. The US Army Air Traffic Control Activity was transferred from the US Army Information Systems Command to USAAVNC two years later. The Noncommissioned Officer Academy was established at Fort Rucker in 1987. In 1988, USAAVNC assumed command and control as well as resource management responsibilities for the Aviation Logistics School at Fort Eustis, Virginia.

The first Army Aviation Modernization Plan (AAMP) was approved and implemented in 1988. As modified in subsequent revisions, this plan called for gradual reduction in the number of Army aircraft as older models were replaced by modern ones. According to the 1992 version of the AAMP, the aircraft inventory of 7,793 aircraft in 1992 would be reduced to 6,150 in 1999 and 5,900 in 2010. Only six aircraft types would be in the rotary–wing fleet in 2010.

The Aviation Restructure Initiative (ARI) was undertaken to correct the deficiencies in Army of Excellence design for aviation units while retiring old aircraft and reducing logistics requirements and costs. The CSA approved the ARI on 3 February 1993, and implementation began in 1994. All forward-deployed forces were scheduled to complete the restructuring process by 1998 and all other units by 1999.

Army aviation units were involved in all major contingency operations during the 1980s and 1990s. In Operation Urgent Fury, the American invasion of Grenada in October 1983, both the Marine Corps and the Army used helicopters. For the Army, Urgent Fury was the first combat test of the new UH–60 Black Hawks, which were used for assault, MEDEVAC, and transport during the operation. Three Army aviation battalions took part in Operation Urgent Fury.

Another new Army helicopter, the OH–58D Kiowa Warrior, was employed in the Persian Gulf in 1987. The Army armed 15 of these aircraft with Hellfire missiles and stationed them on U.S. Navy ships in the Persian Gulf to protect shipping during the war between Iran and Iraq.

Approximately 160 Army helicopters took part in Operation Just Cause, the American invasion of Panama beginning in December 1989. AH-64 Apaches self-deployed from the United States and engaged in combat for the first time. Other Army aircraft performing attack, assault, transportation, and observation roles in Operation Just Cause included Cobras, Black Hawks, Chinooks, Kiowas, and Hueys. The invasion of Panama employed the largest number of special operations aircraft (65 helicopters and 20 fixed-wing planes) ever employed by United States forces. There was general agreement that special operations air support was the best that had ever been provided.

Although the Apache exhibited some mechanical problems during Just Cause, it performed well as an advanced attack aircraft. Lieutenant General Carl Stiner, commander of the XVIII Airborne Corps, was quoted as observing that it could fire a Hellfire missile *"through a window at five miles away at night."* Operation Just Cause enabled Army aviators to demonstrate in combat that, through the use of the night vision devices with which they had trained, they could *"own the night."*

In the early morning of 17 January 1991, an Army aviator fired the first shot of Operation Desert Storm from an Army helicopter. Within a few minutes, two teams of Apaches totally destroyed two Iraqi radar stations, paving way for the air war over Iraq to be conducted with relative impunity.

During the 100–hour ground war, which began about a month later, Army attack helicopters played their most decisive role ever in combat. Most of the Apache's mechanical problems had been corrected. Whatever doubts remained regarding its durability and combat effectiveness were quickly dispelled. Dozens of aviation units and several hundred helicopters of all types took part in the Gulf War. In addition to attack, helicopters were used for air assault, reconnaissance, transportation, combat search and rescue, and observation.

Helicopters, as well as most other types of equipment, were adversely affected by sand and other environmental conditions; however, methods were devised to control the damage and to maintain a high rate of combat readiness. Operation Desert Storm was the first major military operation conducted on a largely electronic battlefield. Army aviation amply demonstrated its effectiveness in this environment and also proved again that it could own the night by carrying out many of its combat operations during darkness.

Since Desert Storm, Army aviation has taken part in several other operations: Provide Comfort in northern Iraq, Restore/Continue Hope in Somalia, Uphold Democracy in Haiti, and the NATO operation in Bosnia. Over 60 Army aircraft and approximately 1,000 aviation personnel operated in Somalia from 1992 to 1994. Somalia provided Army aviation with important lessons relating to military operations in an urban environment. Army aviation's unique combination of versatility, deployability, and lethality cause it to be an indispensable ingredient of almost any type of contingency operation anywhere in the world.

From the sandy beaches and towns of Haiti to the snows and flooded streams of Bosnia, Army aviation continues to demonstrate its unique capability. This unique capability includes infiltration, reconnaissance, evacuation, and strike missions of unconventional warfare and other–than–war operations.