Army Aviation: The Need for Change

A Monograph

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Army Aviation is in a constant state of change to meet the requirements of the Army, and more importantly, the needs of the ground force commander. In the contemporary operating environment and the future Army Operating Concept of multi-domain battle, Army Aviation must hold to the edict that the successful accomplishment of the ground force commander's mission is the principal consideration for the employment of Army Aviation assets. Throughout history, much change occurred, from the United States military's first use of aviation near the end of the Civil War to the current fight in support of the Global War on Terrorism. As the Army looks forward to multi-domain battle against a peer / near-peer threat, change is once again necessary as Army Aviation is not currently trained, led, nor equipped to combat such an enemy. This monograph provides a short history of Army Aviation focused between the end of World War II to the present to identify major changes to the organizational structure of Army Aviation and to explain our current force structure. The monograph then describes needed changes in terms of training, leader development, force structure, and the development of an armed aerial scout to better support ground commanders in today's contemporary operating environment.

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Abstract

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Army Aviation is in a constant state of change to meet the requirements of the Army, and more importantly, the needs of the ground force commander. In the contemporary operating environment and the future Army Operating Concept of multi-domain battle, Army Aviation must hold to the edict that the successful accomplishment of the ground force commander's mission is the principal consideration for the employment of Army Aviation assets. Throughout history, much change occurred, from the US military's first use of aviation near the end of the Civil War to the current fight in support of the Global War on Terrorism. As the Army looks forward to multi-domain battle against a peer / near-peer threat, change is once again necessary as Army Aviation is not currently trained, led, nor equipped to combat such an enemy. This monograph provides a short history of Army Aviation focused between the end of World War II to the present to identify major changes to the organizational structure of Army Aviation and to explain our current force structure. The monograph then describes needed changes in terms of training, leader development, force structure, and the development of an armed aerial scout to better support ground commanders in today's contemporary operating environment.

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Acronyms

AADP	Army Aviation Development Plan
AAS	Armed Aerial Scout
AH	Attack Helicopter
AHR	Attack Helicopter Regiment
AGI	Air Ground Integration
AGO	Air Ground Operations
AMC	Air Mission Commander
AR	Army Regulation
ARH	Attack Reconnaissance Helicopter
ARI	Aviation Restructuring Initiative
ARNG	Army National Guard
AUSA	Association of the United States Army
BAE	Brigade Aviation Element
BCA	Budget Control Act
BCT	Brigade Combat Team
BOLC	Basic Officer Leader Course
CAB	Combat Aviation Brigade
CAS	Close Air Support
CCA	Close Combat Attack
CH	Cargo Helicopter
COE	Contemporary Operating Environment
COTS	Commercial off the Shelf
DES	Directorate of Evaluation and Standardization
IP	Instructor Pilot
JP	Joint Publication

JRTC	Joint Readiness Training Center
MH	Multi-Mission Helicopter
NTC	National Training Center
OE	Operating Environment
OH	Observation Helicopter
PC	Pilot in Command
POI	Program of Instruction
REFORGER	Return of Forces to Germany
RSSG	Reconnaissance and Security Strike Group
TC	Training Circular
TIC	Troops in Contact
TRADOC	Training and Doctrine Command
UH	Utility Helicopter
USATMRB	United States Army Tactical Mobility Requirements Board
WOBC	Warrant Officer Basic Course

Introduction

> The only excuse for aviation in any service is its usefulness in assisting the troops on the ground to successfully carry out their missions.
>
> —Alfred Cunningham, First Director of Marine Corps Aviation, 1920

Army Aviation is in a constant state of change to meet the requirements of the Army, and more importantly, the needs of the ground force commander. As the above quote by Alfred Cunningham asserts, aviation is useless if it is not focused on supporting the commanders and troops on the ground. Although each service within the US military may not hold this view, Army Aviation must hold to the edict that the successful accomplishment of the ground force commander's mission is the principal consideration for the employment of Army Aviation assets. Throughout history, much change occurred, from the US military's first use of aviation near the end of the Civil War to the current fight in support of the Global War on Terrorism. As the Army looks forward to multi-domain battle against a peer / near-peer threat, change is once again necessary as Army Aviation is not currently trained, led, nor equipped to combat such an enemy.

Major changes to Army Aviation began near the end of World War II. World War II saw many struggles between the Army Air Corps and ground force commanders. The Army Air Forces focused on bombing campaigns deep in enemy territory outside of direct contact with friendly forces on the ground. The belief within the Army Air Corps at the time was that deep bombing campaigns could decisively defeat the enemy and bring the war to an end. In that vein, support to troops on the ground continued to wane much to the chagrin of ground commanders. Ground commanders saw more utility in using aviation to support troops on the ground with close air support and protection of their flanks. This tension between ground commanders and Army Air Corps commanders eventually led to the creation of the US Air Force. The Army was able to maintain a fleet of aircraft, primarily spotter aircraft for adjusting artillery in support of ground commanders. However, many arguments ensued between the Army and the Air Force for control of the air at low altitudes in the proximity of ground forces. The Army seized opportunities for

the development of aviation capabilities created by loopholes in the National Defense Act of 1947 and the subsequent Key West Agreements. By the end of the Korean War, the Army realized the capabilities inherent in the use of rotary wing aircraft to meet the needs of ground commanders. Between the Korean War and the Vietnam War, numerous studies were conducted to determine the feasibility of using aircraft in a maneuver role. Army Aviation rotary wing aircraft first operated as an aviation maneuver force in support of a combined arms team in the early years of the Vietnam War. Current aviation doctrine defines this as air-ground operations (AGO), "the simultaneous or synchronized employment of ground forces with aviation maneuver and fires to seize, retain, and exploit the initiative."[1] This new use of aviation in support of ground combat operations was due in large part to the conclusions reached by the US Army Tactical Mobility Requirements Board (USATMRB), commonly known as the Howze Board, published in August 1962. The board's findings gave rise to the airmobility concept, which used Army Aviation rotary wing aircraft to rapidly insert ground maneuver forces while simultaneously providing supporting fires from rotary wing aircraft. In 1983, Army Aviation became its own branch to consolidate doctrine, training, leader development, and aviation support requirements under one unified branch. Prior to 1983, several branches within the Army were responsible for these functions causing numerous friction points. With the creation of the Aviation branch, the discussion on the utility of Army Aviation as a maneuver force continued. Successful use of the branch's ability to apply mass, concentration, lethality, and flexibility were demonstrated during the initial stages of the Gulf War, as attack helicopters destroyed Iraq's radar capabilities along the Kuwait border to enable coalition air power to strike targets deep into Iraq. This successful deep attack further cemented in the minds of aviation leadership that the doctrine of deep attack missions would change the role of the attack helicopter on the modern battlefield. In the attack role, Army

[1] US Department of the Army, Field Manual (FM) 3-04, Army Aviation (Washington, DC: Government Printing Office, 2015), 1-1.

Aviation was beginning to take their eyes off supporting the ground commander. The thought that Army Aviation deep attack missions were a panacea for success on the battlefield proved inadequate in the 11th Aviation Regiment's unsuccessful attempt to destroy the Medina Division in the initial hours of Operation Iraqi Freedom. The Apache proved vulnerable to enemy air defenses and enemy massed small arms fire. Many other factors resulted in the unsuccessful deep attack, including poor planning considerations, attack routes, lack of preplanned fires, lack of suppression of enemy air defense planning and combining effects from the joint force. The attack helicopter community lost focus on supporting the ground commander in close combat as they remained focused on deep attack strikes. Army Aviation was then required to relearn skills proven successful during the Vietnam War of supporting ground commanders in the close fight by providing flexibility, lethality, agility and massed fires to destroy enemy targets. Over the last twelve to fifteen years, Army Aviation attack and reconnaissance assets supported ground maneuver elements fighting a counter insurgency, primarily as a fires platform working in small two-to-three ship teams of aircraft while lift assets primarily supported battlefield resupply and CASEVAC operations. Army Aviation recognizes that conducting operations in a decisive action environment against a peer / near-peer threat in support of Unified Land Operations is much different than counterinsurgency operations. To not have to relearn lessons from past conflicts, changes must occur now within Army Aviation. These changes include a different training methodology, junior officer leader development initiatives, force structure, and a focus on developing an armed aerial scout to defeat emerging enemy forces across the globe. For Army Aviation to provide mass, concentration, lethality, and flexibility at the decisive point on the battlefield while simultaneously synchronizing those operations with joint fires, change must occur now.

History of Army Aviation

Historical Relevance

As Army Aviation changed throughout the last three quarters of a century, it is important to understand these changes and the context within which changes were made. Army Aviation does not appear to change for change's sake, but to better integrate with Army operational concepts and those Soldiers the branch supports in the conduct of ground combat operations. These changes are also critical to understanding how Army Aviation evolved into the posture it finds itself in today.

Aviation is Born

Army Aviation's origins lie in the use of manned, tethered, observation balloons near the end of the Civil War. The early years of aviation and its development between its founding and the end of World War II are beyond the scope of this paper. The official birthday of Army Aviation is June 6, 1942, when Henry L. Stimson, the Secretary of War, authorized the assignment of light airplanes to the field artillery.[2] The War Department authorized the Field Artillery to maintain a small fleet of spotter planes separate from the Army Air Corps to provide aerial observation for artillery fires.[3] Pilots were recruited from all branches of the military.

World War II through Korea

Aviation use in World War II became contentious as ground commanders sought to use air power to support their operations on the ground, specifically fighter aircraft providing Close Air Support (CAS) for ground operations. Control of air assets remained with air commanders, who envisioned the use of airpower more effective to achieve strategic purposes, as opposed to

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[2] Richard P. Weinert, Jr., *A History of Army Aviation — 1950-1962*, ed. Susan Canedy (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1991), 1-5.

[3] John W. Kitchens, "Origin and Evolutions of Army Aviation," *United States Army Aviation Digest* 1-89-6 (June 1989): 5.

tactical. These air commanders were following in the air theories of Billy Mitchell and Giulio Douhet, both staunch advocates of air power. The North African campaign brought this dilemma to the forefront as the lack of integrated tactical aviation support to the ground commander proved inadequate leaving ground commanders dissatisfied. Patton himself complained that the "total lack of air cover for our ground units has allowed [the German] air force to operate at will."[4] As the war continued, this separation continued to grow between the air and ground forces resulting in the creation of the US Air Force in 1947. The National Defense Act of 1947 and the subsequent Key West Agreement, signed April 21, 1947, set forth clear obligations for both the Army and Air Force. The Air Force is to "furnish close combat and logistical air support to the Army, to include airlift, support, and resupply of Airborne operations, aerial photography, tactical reconnaissance, and interdiction of enemy land power and communication." The Army's role, "expediting and facilitating the conduct of operations on land; improving mobility, command, control and logistics support of Army forces, and facilitating greater battlefield dispersion and maneuverability under conditions of atomic warfare."[5] Through these defined roles, the Army saw a void in which they could operate to support their tactical requirements while allowing the Air Force to break free in their pursuit of strategic bombing. "By far the most significant development of this period was the introduction of the helicopter into Army Aviation."[6]

Prior to the Korean War the Army purchased the Bell Helicopter H-13 Sioux for missions similar to the light fixed wing aircraft of World War II. These aircraft filled the role of adjusting artillery, medical evacuation, wire laying, courier services, and command and control platforms.[7]

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[4] James W. Braden, *From Hot Air to Hellfire: The History of Army Attack Aviation* (Novato, CA: Presidio Press, 1994), 67-68.

[5] Ibid.,75-76.

[6] Weinert, *A History of Army Aviation — 1950-1962,* 12.

[7] Christopher C.S. Cheng, *Air Mobility: The Development of a Doctrine* (Westport, CT: Praeger Publishers, 1994), 30.

The outbreak of the Korean conflict resulted in a more aggressive approach to the development of the helicopter program. Fielding of the H-19 Chickasaw and H-21 Workhorse helicopters began in earnest in the fall of 1951 primarily to support the Transportation Corps for organic air transportation services.[8] The role of the helicopter in support of Army tactical operations truly came to light during the Korean War. By the time the cease fire armistice in Korea was signed in 1953, the Army realized the potential of the helicopter.

Korea through Vietnam

Though the role of the helicopter in support of Army tactical operations came to light during the Korean War, much change still needed to occur. Army senior leaders envisioned a greater role for the use of helicopters and identified capability gaps that helicopters could fill. Major General James M. Gavin sought to identify and fill these capability gaps with expanded roles for helicopter employment. The mid 1950s saw dramatic changes in the Army's employment of helicopters. In April of 1954, General Gavin penned an article published in *Harper's Magazine* describing new methods for the employment of helicopters. Entitled "Cavalry, and I don't Mean Horses!," Gavin analyzed some aspects of the helicopters' role in the Korean War. He wrote "Where is the cavalry? And I don't mean horses. I mean helicopters and light aircraft, to lift [S]oldiers armed with automatic weapons and hand carried light anti-tank weapons, and also lightweight recon vehicles, mounting anti-tank weapons the equal or better to the Russian T-34s."[9] He further stated:

> "Cavalry-type screening missions will have to be conducted at much greater distances, and with much greater rapidity, than have hitherto been considered acceptable. The mobility differential to make this possible must be achieved. It is within our grasp, fortunately in the air vehicles now being developed--assault transports, light utility planes, helicopters, and convertiplanes." [10]

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[8] Weinert, *A History of Army Aviation — 1950-1962*, 13.

[9] James M. Gavin, "Cavalry, and I Don't Mean Horses," *Harper's Magazine* 209, no. 1247 (April 1954): 54.

[10] Ibid., 59.

Gavin saw greater use for the helicopter, specifically for use as a maneuver element to rapidly move troops around the battlefield and use as a platform to deliver aerial fires.

The growing discussion on the use of Army Aviation by senior leadership led to several studies during the early years of the 1960s leading into the Vietnam War. The first major review of Army Aviation occurred with the creation of the Rogers Board, which convened in April of 1960. Officially named the Army Aircraft Requirements Board and chaired by Lieutenant General Gordon B. Rogers, the Rogers board was tasked to recommend a course of action for the development of Army Aviation from 1960 to 1970. It is important to note that during this time the Army faced severe budget restrictions due in large part to the strategic concept of massive retaliation. The majority of defense spending dollars supported nuclear strike capabilities, which limited funding to Army programs. Due to the fiscally constrained environment, planners working as a part of the Rogers Board were "realistic" in their projections and were "think[ing] in terms of the possible." As an example, the board found that the Army needed approximately $350 million for new aircraft simply to fill units in the field to their required minimum levels and to stay ahead of obsolescence. Knowing the aircraft were just one of many items Army Aviation needed, the board recommended that the Army ask for $250 million—in effect cutting the Army's own requirement by thirty percent before submission.[11] Though the board limited its aircraft requirements due to budgetary restrictions, it did recommend that the Army should purchase the UH-1 Huey, a future workhorse of Army Aviation and the coming war in Vietnam.[12]

The Kennedy administration provided opportunities for greater change within Army Aviation. With less emphasis on the strategic concept of massive retaliation, Secretary of Defense Robert S. McNamara rejected the findings of the Rogers Board as contradictory and ambivalent and instructed the Army to establish a board to examine not only aircraft requirements, but

[11] John R. Galvin, "*Air Assault: The Development of Airmobile Warfare* (New York: Hawthorne Books, 1969), 275.

[12] Ibid., 104.

organizational changes necessary to employ aircraft effectively. McNamara made it clear he was looking for improved ground tactical performance through bold increases in mobility. To preclude staff officers from weakening the findings by conservative rewriting, he required that the board report directly to him. McNamara also directly named the chairman of the board as Lieutenant General Hamilton H. Howze.[13] Officially called the US Army Tactical Mobility Requirements Board, commonly referred to as the "Howze Board", the board was given a broad mission by McNamara, "develop and test the airmobile concept."[14] Howze conducting field tests beginning in June of 1962 at Fort Stewart and in the mountains of Virginia. Howze also conducted wargames in Bethesda, Maryland. These wargames involved studying long-range aspects of aviation including logistics, budget problems, operations research, and integration with other military concepts. Taking only three short months to complete the report, Howze found that "the idea of air mobility, at least in the US, was definitely fledgling, and not yet off the ground. There were problems in many fields—aircraft, weapon systems, electronics, tactical concepts, organization, research and development, and integration into the Army force structure among others."[15] Despite the state of Army Aviation at the time and its fledgling position, Howze asserted the air mobility concept was definitely worth the risks necessary to develop the concept. He advocated for the creation of airmobile divisions. He saw the approaching tactical revolution of air mobility as being "as profound as the mechanization of warfare by the introduction of the gasoline engine."[16] Howze strongly recommended that air mobility must completely integrate into the force structure in balance with other tactical concepts. He did not believe that aviation was a panacea on the modern battlefield and able to alter the course of battle on its own accord. This argument goes back to the end of World War II as the Army Air Corps devoted more assets

[13] Galvin, *Air Assault,* 276.

[14] Ibid., 276.

[15] Ibid., 278.

[16] Ibid., 278.

to conducting long range bombing missions than support to commanders on the ground. Army Aviation must be fully integrated, and live among those it supports, an argument which will re-emerge after the Gulf War leading into operations in Afghanistan and Iraq. "The basic statement of the Howze Board report is the assertion that a wide variety of airmobile operations are feasible, including air assault, air cavalry operations, aerial artillery support, and aerial supply lines."[17]

The concepts envisioned by leaders such as Gavin and Howze were tested on the world stage as the Army's involvement in Vietnam increased. The airmobile division was created at Fort Benning, Georgia in 1962 as the 11th Air Assault Division and found itself in the Central Highlands of Vietnam by November of 1965 validating the tactics, techniques, and procedures developed initially by the Howze Board. Another important initiative during the Vietnam War is the development and procurement of the purpose built AH-1 Cobra attack helicopter. The Howze Board identified a capability gap in the lack of an aerial tank-killing weapon if aviation was going to be useful across the spectrum of warfare.[18] The Army began development of a tank killer called the "Cheyenne." As the urgency for an attack aircraft continued to mount during the Vietnam War, and the production of the Cheyenne continued to drag, a quick fix became necessary. Bell Helicopter developed the Cobra, which began fielding in the summer of 1967. The Cobra was a good fit for Vietnam, but it did not fix the requirement for a tank killing platform identified by the Howze Board. This tank killing requirement would become even more important post-Vietnam as the Army looked toward central Europe and the growing threat presented by the Soviet Union.[19] In terms of air to ground coordination, the Vietnam War generated a close bond between infantry units and the air units that provided them with fire support. Units developed standard operating procedures that prevented fratricide, improved

[17] Ibid., 279.

[18] Bradin, *From Hot Air to Hellfire*, 110.

[19] Ibid., 114-118.

coordination, command and control, and support to ground units.[20] Furthermore, the cohesiveness developed between the ground and air units improved appreciably in units where the aviation elements were attached to the supported ground elements; those that lived, worked, and trained together daily were better at employing aerial assets. This relationship is what we now know today as Air Ground Operations (AGO). Major General John Tolson pointed out that every ground commander knew instinctively that "he could do certain things with 'his' Hueys that he couldn't quite do with 'somebody else's.'"[21] This cohesiveness between ground and air remains an imperative that Army Aviation must maintain to retain its relevance to the ground force commander. World War II aviation support and the divorce of the Army Air Corps to the eventual creation of the US Air Force is a constant reminder that Army Aviation forces should be integrated with ground maneuver. Unfortunately, the post-Vietnam change to AirLand Battle doctrine created a schism between the Army's attack aviation forces and their ground commanders.

AirLand Battle and the creation of the Aviation Branch

Coming out of the Vietnam War, the Army found itself with a great need to change its doctrine to meet current and emerging threats. Too focused on a counter-insurgency fight and developing partnership capacity with the South Vietnamese, a credible peer / near-peer threat emerged in the Soviet Union that threatened the central plains of Europe. The Arab-Israeli War of October 1973 also served as a wake-up call for the US Army as it demonstrated a potent example for those in the Army trying to change the way the Army trained, equipped, fought, and thought about modern warfare in the post-Vietnam era.[22] General William E. DePuy served as the

[20] John J. Tolson, *Vietnam Studies: Airmobility 1961-1971* (Washington, DC: US Department of the Army, 1973), 122.

[21] Ibid., 84.

[22] John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* (Fort Monroe, VA: US Training and Doctrine Command, June 1984), 2.

commander of Training and Doctrine Command upon its creation after the Vietnam War to drive changes within the Army's Doctrine to focus attention on the Soviet threat and the lessons learned from the Arab Israeli War. Harnessing the intellectual knowledge of Major General Donn Starry, Armor Center Commanding General, and Major General Thomas Tarpley, Infantry Center Commanding General, General DePuy set about studying, testing and revising new doctrine. "Central among the lessons of [the Arab Israeli War] had been the criticality of combined arms on the modern battlefield."[23] The employment of aviation assets during the Return of Forces to Germany (REFORGER) exercise in 1975 demonstrated the use of common operational graphics and battle planning between air and ground units as integral to aviation's success as a part of the combined arms team.[24] These exercises led to defining the role of aviation assets in the combined arms fight, during both offensive and defensive operations. Attack aviation aircraft were not to be employed as a close air support asset as they primarily served during the Vietnam War, but as an "inseparable part of a unified plan of operation."[25] Although the doctrine on attack helicopter employment in support of AirLand Battle during the mid-1970s made large strides to becoming a critical component of the combined arms team, major capability gaps still existed in the aircraft required to support the doctrine. The Army still required a tank killer that could operate at low level altitudes and at night to complete implementation of the doctrine. Due to this requirement, the AH-64 Apache is developed in the late 1970s, specifically to capitalize on the lessons of the Arab Israeli War and the doctrinal concepts developed by General DePuy and his team. The Apache would fill the requirements of a long-range tank killer, capable of flying and fighting at

[23] Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations* (Fort Leavenworth, KS: Combat Studies Institute, 1988), 39.

[24] Army Aviation Agency Fort Rucker, *Army Aviation Mission Area Analysis (AAMAA), Vol II* (Fort Rucker, AL: Army Aviation Center, January 1982), 11-6.

[25] US Department of the Army, Field Manual (FM) 100-5, Operations (Washington, DC: Government Printing Office, 1982), 7-2.

night from nap of the earth (NOE) altitudes with a high probability of kill with the Hellfire laser guided weapon system.[26]

Army Aviation also became a branch during this period. Prior to 1983, aviation officers were assigned to other branches, i.e. Infantry, Armor, Field Artillery; and served in their branches while also performing flight duties during some assignments. This prevented the development of an aviation professional Soldier. Further compounding the issue was the lack of a single proponent for aviation doctrine. Other branches were assigned different portions of the doctrine, making aviation doctrine disparate with no lead agency for its development. The Army Aviation Development Plan (AADP) argued the creation of the branch would solve three systematic problems that plagued the branch; poor tactical and management training for aviation officers, the decentralized approach to proponent responsibility for Army Aviation, and the dispersal of aviation specialists throughout the other branches of the Army.[27] The conclusion of the AADP stated that "Army Aviation should be structured in a way analogous to the other combat arms and assigned full responsibility for the aviation function on and off the battlefield."[28] Not all aviation leaders endorsed the creation of an Aviation Branch, including General Hamilton H. Howze, partially responsible for the introduction and execution of the airmobility concept coming to fruition during the Vietnam War. Howze felt it essential that aviators have a complete understanding of the ground fight if they were to provide the kind of support the Army needed them to provide as part of the combined arms team.[29] Howze's experience in World War II with the Army Air Corps and their lack of support during operations in North Africa still affected his

[26] Bradin, *From Hot Air to Hellfire*, 142, 155.

[27] Army Aviation Center, *Army Aviation Development Plan (AADP)* (Fort Rucker, AL: Army Aviation Center, September 1982), 4-27.

[28] Army Aviation Center, *Army Aviation Development Plan (AADP),* 4-29.

[29] Benjamin L. Harrison, "Aviation: A Branch Decision Revisited," *Army Magazine* 41, No. 1 (January 1991): 24.

position years later as the Army decided to create the branch. In retrospect, the creation of the branch solved many of the problems Army Aviation in general suffered in the post-Vietnam era. Consolidating the training, doctrine, and professionalization of the aviator into one branch fixed or improved many of the systemic problems. The opponents were also correct though, as the creation of the branch moved aviation away from the close fight in pursuit of deep battle glories and status as a maneuver branch on par with the Infantry and Armor branches.[30]

Aviation as Maneuver

The late 1970s and early 1980s saw aviation begin to pull away from the close fight and focus more on deep strike operations. The development of the AH-64 Apache coupled with the new AirLand Battle doctrine defined clear roles for aviation's use in destroying armored formations in support of operational plans. Surprisingly, these changes were codified in doctrine. The 1976 version of Field Manual (FM) 1-40, Helicopter Gunnery, stated "attack helicopter battalion and air cavalry squadron are maneuver units…..these units will seldom, if ever be used in a fire support role and for this reason do not usually answer 'calls for fire' from other maneuver units."[31] By 1986, FM 100-5, Operations, clearly listed aviation as a separate maneuver arm on the battlefield and pointed out that "In today's Army, while aviation is relegated largely to support of ground maneuver, it increasingly offers opportunities for actual maneuver by air."[32] The term "relegated" is cause for concern, as it insinuates Army Aviation's purpose is something greater than supporting the ground force. This is exactly the situation General Howze was concerned about in his opposition for the creation of the branch. The lessons learned during the Vietnam War seem to be forgotten no less than ten years after they were learned. Attack aviation

[30] Frank W. Tate, *Army Aviation as a Branch, Eighteen Years After the Decision*, Master's Thesis (Fort Leavenworth, KS: US Army Command and General Staff College, AY 00-01), iii.

[31] US Department of the Army, Field Manual (FM) 1-40, Helicopter Gunnery (Washington DC: Government Printing Office, 1976), 111.

[32] US Department of the Army, Field Manual (FM) 100-5, Operations (Washington DC: Government Printing Office, 1986), 42, 145.

operations in support of the ground fight appeared to be waning, and thus were becoming strictly focused on deep attack missions. Attack aviation focused more on the deep attack in high threat environments throughout the rest of the Cold War, developing tactics, techniques, and procedures for effective employment. The tactics and techniques developed during the mid-to late 1980s were effectively employed on January 17, 1991, as Task Force Normandy conducted a deep attack along the border of Iraq to destroy two missile sites allowing coalition Air Forces to strike targets deep into Iraq in support of Operation Desert Storm. Comprised of nine AH-64 Apaches, one UH-60 Blackhawk and four Air Force MH-53J Pave Low Helicopters, the deep attack was successfully executed validating the tactics developed over the preceding ten years[33]. The attack in support of a conventional fight against armored formations and critical command and control nodes proved successful. The further destruction of enemy armored formations along the "Highway of Death" as the Iraqi formations retreated from Kuwait into Iraq further demonstrated the effectiveness of the attack helicopter in support of achieving campaign objectives. For the next decade, attack aviation continued to refine the tactics, techniques, and procedures demonstrated by Task Force Normandy, to the detriment of training for the next fight which would require much more Air to Ground Integration to achieve a decisive victory.

Modularity

As Operation Iraqi Freedom commenced on March 20, 2003, Army attack aviation relished in their glory achieved during Operation Desert Storm and planned to conduct a deep attack to set the conditions for achievement of a successful campaign against the regime of Saddam Hussein. On March 23, 2003, the 11th Attack Helicopter Regiment (AHR) commenced a deep attack strike against Saddam Hussein's Medina Division near the town of Karbala, Iraq. During the unsuccessful attack, the regiment lost two aircraft, had two aviators captured and suffered battle damage on 29 of its 30 Apache helicopters. The targeted Medina units remained

[33] Bradin, *From Hot Air to Hellfire,* 31.

relatively unscathed by the attack. "The Army's vaunted deep-strike attack helicopters appeared to have been neutralized by the Iraqi air defense tactics."[34] This failure to achieve operational success in the early days of Operation Iraqi Freedom through the conduct of a deep attack against one of Saddam Hussein's most lethal battlefield units served as a black eye for Army Aviation and its ability to shape the battlefield for ground forces. Though there were numerous operational and planning factors that contributed to the failure, Army Aviation's ability to replicate the success of Operation Desert Storm was compromised. Leading up to Operation Iraqi Freedom, the Army focused on updating AirLand Battle to the Force XXI concept to remain engaged in changes to the Contemporary Operating Environment (COE) to ensure success on the battlefield. However, the experience of the 11th AHR is "very much a reflection of change in the environment not discerned or at least not fully accommodated by the Army."[35] The central focus on "destroying massed enemy mechanized forces and other forces" dictated by Army Aviation Doctrine at the time had to change in light of the changing conditions on the battlefield in Iraq.[36] Changes occurred rapidly during the campaign as units were evaluating lessons learned from their operations in support of ground forces. Units began to focus more on attacks in support of troops in close combat than deep attack strikes against mechanized forces. Major Robert M. Cassidy, who served as an aviation brigade S-3 (operations officer) during operation Iraqi Freedom, discusses the change in tactics in a paper published in August of 2003 in which he stated:

> the 3d ID's attack battalion mission profile transformed from battalion-massed or phased attacks against armor and artillery to continuous close combat attacks in support of the division's main effort brigade combat team (BCT). The Apache's close support role during the war's principally orthodox, formation-against-formation phase signaled the

[34] Gregory Fontenot, E.J. Degen, and David Tohn, *On Point: US Army in Operation IRAQI FREEDOM* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 89.

[35] Ibid., 384.

[36] US Department of the Army, Field Manual (FM) 1-112, Attack Helicopter Battalion (Washington, DC: Government Printing Office, 1991), 1-3.

> rebirth of aviation in a close fires role and represented a paradigm shift from a decade-long infatuation with deep attacks.[37]

The tactical employment of attack aircraft dedicated strictly against massed enemy formations diverted from the initial intent of the employment of attack aviation during the Vietnam War and the tremendous lessons aviation learned during that conflict. Those lessons were now being relearned to support the ongoing fight in Iraq and Afghanistan as the enemy continued to adapt to the employment of more asymmetric tactics from urban terrain. Army Aviation once again faced tremendous capability gaps and needed to re-organize its forces, invest in technology, and adapt to training and educating leaders to achieve greater success on the modern battlefield. The Army changed to a modular force during this period as well; aviation needed to change to keep up with the transformation of the force.

Army Aviation learned significant lessons early in the wars in Iraq and Afghanistan and a change to the structure of Army Aviation was necessary to continue to support the Army's modular force in the protracted fight. This led to an organizational change in the form of the Combat Aviation Brigade (CAB). An Association of the US Army (AUSA) report at the time stated:

> The Army realized the need to refocus its aviation assets on core competencies that supported the land force commander in a non-linear, distributed battlefield and on areas that could bring the vertical capabilities to bear on an enemy across the entire range of operations. [A 2003 review of Army Aviation] led to … reorganizing Army Aviation … into robust divisional aviation brigades that can be readily organized to support the brigade combat team (BCT) – centric fight.[38]

The creation of the CAB evolved from a top-to-bottom review of Army Aviation directed by the Chief of Staff of the Army in 2003 based on aviation's performance during the initial stages of operations in Iraq and Afghanistan. The new design intended to provide standardized

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[37] Robert M. Cassidy, "Renaissance of the Attack Helicopter in the Close Fight," *Military Review* 83, no. 4 (July-August 2003): 42-43.

[38] Gordon R. Sullivan, *U.S. Army Aviation: Balancing Current and Future Demands* (Arlington, VA: Institute of Land Warfare, Association of the US Army, 9 January 2008): 5-6.

modular units that enabled the aviation brigade to tailor forces to support heavy and light brigade combat teams, pushed aviation combat power from the corps to the division, placed organic medium lift capabilities in the division (CH-47), and defined the OH-58D and AH-64 as a multi-role aircraft performing both attack and reconnaissance missions.[39] This course of action eliminated the existence of corps aviation brigades like the 11th AHR, whose missions were centered on deep attack, in order to provide more combat power within the division structure. Additionally, it removed the OH-58D from divisional cavalry squadrons and eliminated the aviation squadron within the armored cavalry regiment. This loss of capability severely limited the ability of the divisional cavalry squadron and armored cavalry squadron to conduct its reconnaissance and security role in support of the division and corps respectively. Aviation being too small to assign organic aviation assets to the modular-brigade combat teams resulted in the creation of the Brigade Aviation Element (BAE). The BAE provides the ground commander with an aviation cell on the brigade staff that brings expertise on aviation capabilities, roles, and functions; thus, improving effective air-ground operations.

This restructuring of Army Aviation proved very effective to support operations in Iraq and Afghanistan. In a keynote speech to the Army Aviation symposium in May of 2007, Vice Chief of Staff General Richard Cody stated "Our commanders in the field … say we've got the structure right. [Army Aviation] gives [the Army] the agility, flexibility, the lethality, the sustainability that we need, … five rotations into this now, they give us a thumbs-up on the design of combat aviation today."[40] Furthermore, General Cody goes on to question whether or not the force structure is correct for future fights as he states: "While the structure is right for

[39] US Department of the Army, *Comprehensive Review of Aviation Modernization* (Army Aviation Task Force, Study Report, 1 November 2003), 26.

[40] Ann Roosevelt, "Army Aviation Report Card Full of A's, General Says," *Defense Daily; Potomac* 234, no. 30 (14 May 2007): n/a, accessed November 16, 2017, https://lumen.cgsccarl.com/login?url=https://search.proquest.com/document/234073466?accountid=28992.

Afghanistan and Iraq, is it right for other operations across the full spectrum into the future?"[41] The future of Army Aviation looking towards capability in 2020 and beyond was the only part of the assessment in which General Cody gave a "B". Aviation still needed to prepare for a future fight that would be dissimilar to the threats posed in Iraq and Afghanistan. Therefore, Army aviation must continue to reassess how it trains, equips, and fights to support the needs of the Army. As the Army conducts Unified Land Operations and looks toward Multi-Domain Battle as an operating concept fighting a peer / near-peer threat, several gaps in capability present themselves. These gaps can be overcome by changing training methodology, junior officer leader development, force structure, and developing a capable armed aerial scout.

Current Need for Change in Army Aviation

Training

Army Aviation must change the way in which it trains to meet the needs of the ground force in support of Unified Land Operations and the Army's Future Operating Concept of Multi-Domain Battle. Over the last eighteen years of operations in Iraq and Afghanistan, Army Aviation's effects on the battlefield were limited as we fought a counter-insurgency, much of which occurred in urban terrain. A steep learning curve occurred during the initial stages of the Iraq War as aviation units were trained to mass their effects against large armored formations. Over the duration of the war, attack aviation's role quickly turned to conducting close air support, or close combat attack in support of troops in contact. Normally, these operations were conducted with two or three aircraft in a flight as opposed to large formations of aircraft, in fact "missions employing aircraft in formations above team level are extremely rare,"[42] and necessarily so. In turn, our aviation leaders became very good at operating in teams of two to three aircraft in support of troops on the ground. While these skills were mastered, the ability to mass aircraft to

[41] Ibid., n/a.

[42] Lee Robinson, "Bull in a China Shop: Attack Aviation and the COIN Battlefield," *Small Wars Journal* (August 2012): 4.

achieve a decisive effect at the decisive point on the battlefield atrophied. Army aviation must remain focused on the larger fight and serve to train to support operations involving massing of aircraft and effects. Training and Doctrine Command (TRADOC) capability concept plan for Army Aviation operations between 2015-2024 stated: "aviation units will operate at a tempo that support the ground commander's scheme of maneuver and quickly seizes the initiative from the enemy—forcing him onto the defensive, affording him no rest or relief and no means of responding effectively or defeating him in detail by establishing land—force dominance."[43] The document goes on to further state: "Vertical maneuver, utilizing advanced lift capabilities, will often be the only means to quickly influence and dominate the operational environment, as adversaries conduct simultaneous operations at multiple locations."[44] These capabilities can only be achieved by massing aircraft at the decisive point on the battlefield. Additionally, Army Aviation cannot become focused on one type of threat, it must prepare for both low intensity and high intensity conflicts. "The possibility of fighting a conflict [in conjunction] with the US Navy off the coast of Iran against small boats, against Chinese forces in a resource war in Africa, or a hybrid war in Syria are all possible conflicts for which Army aviators should be prepared."[45]

Therefore, the change in mindset must begin at home station. Home station training must focus on platoon and company collective training at terrain flight altitudes, using terrain to mask movement from enemy detection capabilities.[46] Additionally, the training must involve ground force commanders, their Soldiers, and their staffs either at battalion or brigade level. This training will ensure Army Aviation continues to integrate and operate as part of the ground scheme of

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[43] US Department of the Army, *The United States Army Concept Capability Plan for Army Aviation Operations 2015-2024, Version 1.0* (Fort Monroe, VA: US Army Training and Doctrine Command, 12 September 2008), 12.

[44] Ibid., 13.

[45] Jamie LaValley, "A Hard Lesson Learned: The Need for Weapons and Tactics Instruction in Army Aviation," *Aviation Digest* 1, no. 3 (July-September 2013): 39.

[46] Neil Reilly, Barton Johnke, Daryl Von Hagel, "JRTC Decisive Action: Challenges to COIN Experience Based Operations and Opportunities for Success," *Aviation Digest* 1, no.3 (July-September 2013): 17.

maneuver. While aviation's ability to mass effects on the battlefield atrophied, so too have the abilities of maneuver battalions and brigades to integrate aviation assets into their scheme of maneuver. As a senior aviation operations trainer at the National Training Center at Fort Irwin, California noted during a Warfighter exercise,

> the '[Brigade Combat Team] and Division requests for a "sprinkle" of Close Combat Attack (CCA) across various locations in the close and rear areas; this was a clear indication that our staffs were engrained with the mental model that the AH-64D was best employed as a team of two supporting Troops in Contact (TIC) and that the assault was a tool for reinforcing success rather than maneuvering to a position of tactical advantage.'[47]

Unfortunately, this lack of integration of aviation in support of ground forces is nothing new, it is a lesson that is relearned time and time again. An article written in 1996 by Colonel Eugene H. Grayson discussed the need to train together. Fearing aviation and infantry units were not training together based on his observations, he argued "every time an infantry unit goes to the field, a supporting aviation element should be placed in direct support, including an attack slice."[48] He further argued that the lack of training together and developing standard operating procedures will lead to potential fratricide during combat operations. Major Jason King, at the time of publication a Group Aviation Officer for 1st Special Forces Group, advocated a way to measure the performance of aviation units supporting units within a division. He asserts the CAB commander brief the division commander on not only the number of flight hours executed in the training period, but how many of those flight hours are flown in support of training the brigade combat teams and maneuver units within the division. This metric further drives the aviation brigade to support the training of the maneuver units while increasing the overall readiness of the division.[49] The utility of training together was demonstrated with the 11th Air Assault Division

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[47] Eric Megerdoomian, "Fighting the Combat Aviation Brigade Again: A White Paper by Eric Megerdoomian." September 2, 2015, accessed August 8, 2017, https://www.linkedin.com/pulse/fighting-combat-aviation-brigade-again-white-paper-megerdoomian-mba.

[48] Eugene H. Grayson, "Helicopter Support to Infantry: Dusting Off the Lessons of the Past," *Infantry Magazine* (January-February 1996): 19.

[49] Jason King, "Multi-Echelon Training: Maximizing the Use of Flight Training Hours," *Aviation Digest* 3, no. 2 (January - March 2015): 32.

prior to their involvement in the Vietnam War, these are lessons Army Aviation does not need to relearn. Army Aviation must focus on maximizing training value through multi-echelon training with supported ground units at the platoon and company level.

Leader Development

Quality leader development is a hallmark of training within Army Aviation. However, the question exists as to whether the aviation branch is conducting leader development well enough to prepare our junior leaders to engage in combat against a peer / near-peer enemy in today's contemporary operating environment. In a recent publication of *Aviation Digest*, Major General Gayler, Commanding General, US Army Aviation Center of Excellence, poses the question "Are we developing our leaders to meet the rigor of the Army mission?"[50] The answer is as a branch, aviation can do better in training its junior leaders at the platoon and company level, which starts with the officer's training at Fort Rucker in the Aviation Basic Officer Leaders Course (BOLC). Over the past several years, both Second Lieutenants (2LT) and Warrant Officer Ones (WO1) received the exact same training at BOLC and the Aviation Warrant Officers Basic Course (WOBC).[51] The result of this approach is that there is no difference between a 2LT and a WO1 when they arrive at their first duty assignment. Therefore, when it comes to flight training, they are treated as equals in the cockpit and their training is much the same. This is a disservice to the 2LT who is supposed to be serving as a platoon leader. The 2LT does have a role in the administration requirements of the platoon and retains a supervisory role over the warrant officers and enlisted personnel assigned within the platoon, but when it comes to fighting the formation, they are relegated to the position of a pilot in training rather than leading their formation in the conduct of combat operations. In effect, we have castrated them of their leadership position, and

[50] William Gayler, "The Command Corner," *Aviation Digest* 5, no. 4 (October - December 2017): 2.

[51] Marcus Gengler, Aaron Heath, Morgan Laird, "Going Back to the Future: A Change to Aviation Basic Officer Leader Training," *Aviation Digest* 3, no. 2 (January - March 2015): 25.

normally place a warrant officer in command of the flight who is qualified as an Air Mission Commander (AMC). This arrangement is analogous to placing an armor or infantry lieutenant in a maneuver battalion as a platoon leader, then during field training placing the platoon sergeant or section sergeant in charge of the formation due to the inexperience of the lieutenant. An absurd arrangement. This dynamic must change in aviation formations, platoon leaders should command their platoons when fighting their formations.

Much of the confusion on the role of the platoon leader comes from Training Circular (TC) 3-04.11, *Commander's Aviation Training and Standardization Program* as it discusses the role of the platoon leader. The circular lists eight responsibilities of a platoon leader, one of which is "developing proficiency in the aircraft and attaining Pilot-in-Command (PC) status."[52] What is not listed is the platoon leader's responsibility to become an AMC. Additional confusion is created as the circular stated, "PC proficiency leads to aviation leader proficiency as a flight lead, air mission commander, and ultimately the commander of units operating and fighting with the joint combined arms team."[53] Further,

> [M]embers of the chain of command from platoon leader through battalion commander, must gain the knowledge and expertise to achieve [Readiness Level] RL 1 PC to set the example for subordinates. The professional rated aviator should then continue to develop tactical and technical skills with the intent of designation as flight lead. Continued professional development of aviation skills should lead to selection as an AMC. The AMC is critical to mission execution in the complex OE.[54]

This leads the reader to believe that there is a requirement to attain PC status, prior to attaining the status as an AMC. The role of the PC and AMC are much different, the PC is "the individual responsible and having final authority for operating, servicing, and securing the aircraft

[52] US Department of the Army, Training Circular (TC) 3-04.11, Commander's Aviation Training and Standardization Program (Washington, DC: Government Printing Office, 2016), 2-3.

[53] Ibid., 5-6.

[54] Ibid., 5-6.

he or she pilots."[55] One the other hand, the AMC is "a leadership position and is not a crew duty assignment. The AMC serves as the overall mission leader and is delegated the authority by the commander to make all decisions during multi-aircraft operations."[56] This is a role best accomplished by a platoon leader, who fills a leadership role within the formal structure of the company organization. Charles Lent, a Department of the Army Civilian assigned to the Standardization Division, Directorate of Evaluation and Standardization (DES), argued the emphasis of an AMC program within an organization must be based on the understanding of doctrinal concepts, aviation experience, mature judgement, understanding of the mission, and understanding the commander's intent. It should not over emphasize the individual's proficiency in the aircraft while performing flight duties at the controls. In sum, "the AMC must possess a thorough understanding of each aircraft's capabilities in the flight, understand all facets of the mission to include contingencies, understand the ground commander's intent, and, most of all, provide the ground commander with the aviation support required."[57]

Fortunately, Aviation BOLC changed its Program of Instruction (POI) in 2015 to place more emphasis on training aviation 2LTs to become warfighting leaders instead of just another line pilot. Once the officer completes his/her aircraft transition, they are placed into Phase two of BOLC training which is dedicated to instruction on aviation missions, tactics, and leader development. The leaders get an opportunity to organize and conduct an Air Mission Coordination Meeting, Air Mission Briefings and act in various roles within aviation formations to provide a valuable experiential learning experience.[58] The warrant officers also gain additional

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[55] US Department of the Army, Army Regulation (AR) 95-1, Aviation Flight Regulations (Washington, DC: Government Printing Office, 2014), 25.

[56] US Army, TC 3-04.11 (2016), 6-11.

[57] Charles Lent, "Air Mission Commanders Key to an Effective Warfighting Unit," *Aviation Digest* 4, no 1 (January - March 2016): 18.

[58] Marcus Gengler, Aaron Heath, Morgan Laird, "Going Back to the Future: A Change to Aviation Basic Officer Leader Training," *Aviation Digest* 3, no. 2 (January - March 2015): 26.

training at the end of WOBC similar to that of the 2LTs, but their training is focused more on the technical aspects of aviation mission planning and pilot-in-command / flight lead duties; as it should be.[59]

Aviation units also must change their training of lieutenants as they arrive at units to execute their duties as leaders. Colonel Robert Ault, currently serving as Director, US Army Command and General Staff College, Fort Leavenworth, KS., described the typical path of an aviation lieutenant in *Aviation Digest*. Upon arriving at a new unit, the lieutenant serves in a staff position for six to twelve months, commands a platoon for twelve to eighteen months then returns to another staff position until attending the Aviation Captain's Career Course.[60] Attempting to achieve both PC and AMC status in such a short time is extremely challenging in today's environment of advanced aircraft. The platoon leader's focus needs to be on becoming a quality AMC; once they can organize, plan, lead, and fight their formations, they should then focus on becoming an expert in their flying duties as a PC. By focusing on their AMC duties first and leading their platoons on the battlefield as platoon leaders, the lieutenant will be better equipped to serve as a commander once they graduate the Captain's Career Course and return to the field as newly minted captains. As Ault described, all too often, our captains return to the field to command without ever having led an aviation formation beyond the crew or team level.[61] This trend can be reversed over time by adopting a new culture in the aviation community in which Army Aviation invests in training our lieutenants to lead their platoons, instead of relegating them to the status of just another pilot. Just as the platoon sergeant is critical to the development and success of infantry and armor lieutenants, so is the instructor pilot to the development and success of an aviation lieutenant commanding their platoon in the conduct of mission tasks. These two

[59] Ibid., 26.

[60] Robert Ault, "Overbroadened and Underdeveloped: The Case for Restructuring Army Aviation Officer Development," *Aviation Digest* 5, no. 4 (October - December 2017): 5.

[61] Ibid., 5.

aviators should be crewed together as often as possible until the platoon leader is qualified as an AMC.

Force Structure

Current aviation force structure centers around the modularity concept and the Brigade Combat Teams (BCT) designed in the mid-2000s based on lessons learned from combat operations in Iraq and Afghanistan. The Army was looking for a more modular, tailorable, scalable, sustainable force that could move quickly to hostile areas around the world. Simultaneously, the Army was reorganizing to put more firepower in the hands of division commanders which led to the divestment of corps aviation assets, and ultimately resulted in the divestiture of the divisional cavalry squadrons and the armored cavalry regiments in their original design. The divisional cavalry squadrons lost their organic air troops and were subsequently assigned as a cavalry squadron within a maneuver brigade. The aviation assets were subsequently assigned to aviation battalions with no organic ground troops and assigned to the CAB. The ground troops of the divisional cavalry squadrons were cross leveled across the Brigade Combat Teams within the division giving each brigade a ground cavalry squadron with Shadow un-manned aerial systems to augment their reconnaissance and security capabilities. Eric Megerdoomian, at the time of publication a senior aviation trainer at the National Training Center, argued that "when the BCT centric modular divisions of today take to the field to conduct fire and maneuver, the noticeable missing formation is the division[al] cavalry squadron, the organization that is designed and trained to provide reconnaissance and security for the division to fight and maneuver to positions of advantage over the enemy."[62] He further argued the CAB should serve as the "Chief of Recon," due to its maneuver and firepower capabilities and ability to conduct the division's primary responsibilities conducting reconnaissance, security, and deep

[62] Eric Megerdoomian, "The Lost Art of Reconnaissance and Security," *Aviation Digest* 4, no. 1 (January - March 2016): 33.

fight tasks.[63] This construct requires the addition of a capable ground force to adequately accomplish the reconnaissance and security tasks for the division. Therefore, the re-creation of the divisional cavalry squadrons with organic aviation capabilities in the form of both un-manned and manned systems is a much better alternative than the CAB performing those functions. Additionally, it allows the organization to conduct a guard mission in support of the division. As discussed previously in this paper, the air-ground operations conducted by a unit with organic capabilities under one command headquarters typically functions much better as they train, live, and fight together rather than assigning the capability when it is needed.

The armored cavalry squadrons also lost their organic aviation squadron as the Army moved to the modular BCT design. The loss of their organic aviation assets significantly reduced their overall capabilities of conducting long range reconnaissance and shaping the deep fight for the corps commander. Simultaneously, the corps attack battalions were divested as their singular focus was to conduct deep attack missions to shape the battlefield for the division fight. It is not necessary to bring the corps attack battalions back into the force structure. Augmenting the armored cavalry squadrons with organic aviation capability makes for a much more lethal and effective cavalry fighting force for the corps commander to shape the battlefield for the division fight. Major Nathan Jennings, at the time of publication a student at the School of Advanced Military Studies, argued for the creation of a Reconnaissance and Security Strike Group (RSSG) that is similar in design and function to the armored cavalry squadrons under the Army of Excellence force design. The RSSG will "enable corps-level attacks across theater depth during multi-domain battle."[64] The RSSG could also empower joint efforts across the simultaneous phases of operations in support of the joint fight, specifically in the shape, deter, seize initiative,

[63] Ibid., 36.

[64] Nathan Jennings, "The Reconnaissance and Security Strike Group: A Multi-Domain Battle Enabler," *Aviation Digest* 5, no. 3 (July - September 2017): 4.

and dominate phases.[65] He further stated the RSSG would be well suited to "penetrate denied areas for the rest of the joint force" while having the agility to "operate in all domains simultaneously."[66]

Force structure changes are often difficult, especially when the Army is dealing with an aviation force that is in extremely high demand supporting operations around the globe. The division and corps lack the ability to conduct the reconnaissance and security tasks associated with fighting a peer / near-peer threat. The reconstitution of the divisional cavalry squadron to serve as the eyes and ears for the division, and the creation of the RSSG to serve as the eyes and ears for the joint force with organic aviation assets in support of multi-domain battle is a venture worth exploring.

Armed Aerial Scout

Army Aviation identified in the mid-1980s a replacement for the Vietnam era OH-58 Kiowa scout aircraft was necessary as the Kiowa was lacking in speed and technology. The replacement reconnaissance aircraft was to be purpose built for the reconnaissance mission with a light payload and designed to break contact from an enemy force if necessary. The armed aerial scout (AAS) purpose-built aircraft became known as the Reconnaissance Attack Helicopter (RAH) – 66 Comanche program. Initial fielding of the RAH-66 was scheduled to commence in the late 1990s with the intent of completely replacing the OH-58D Kiowa Warrior. "The Comanche would leverage the most sophisticated technologies, including stealth and improvements in range and payload."[67] The program struggled for several more years and the purse strings from Washington continued to tighten as funding to the Department of Defense

[65] Ibid., 4.

[66] Ibid., 4.

[67] Robert Burns, "Army Cancels Comanche Helicopter Program," *Washington Post*, February 23, 2004.

continued to tighten. The Comanche was projected to consume upwards of forty percent of the Army's annual aviation budget in 2004, a cost Army Aviation determined could be best spent pursuing other technologies and equipment.[68] To make matters worse, the environment drastically changed between 1982 and 2002 as the Cold War was now long over, and other less conventional threats began popping up around the world. Due to the aircraft's stealth technology, operating in an expeditionary field environment was infeasible, another critical negative attribute of the aircraft. In 2004, the program was officially terminated, "in Comanche's case, Lieutenant General Cody made it clear Comanche was cancelled because the system was unaffordable, unnecessary and—despite more than two decades of effort—incomplete."[69]

The termination of the Comanche program did not however eliminate the need for the Army to procure an AAS. Most of the funds were recapitalized into other aviation programs to update and modernize the rest of the fleet, develop unmanned aerial system technologies and to develop a concept for an Armed Reconnaissance Helicopter (ARH) that could be built quickly using current Commercial off the Shelf (COTS) technologies.[70] This program became known as the ARH-70 Arapahoe. The ARH-70 Arapahoe program was canceled as well in 2008 due to multiple scheduling delays and cost overruns.[71] Still no suitable solution was identified to replace the tiring OH-58D Kiowa Warrior. Several companies including Boeing, Agusta Westland, Bell Helicopter, and EADS North America (Airbus), continued to develop AAS options for the Army and flew demonstration flights in 2012. The Commanding General, US Army Aviation Center of Excellence at the time, Major General Kevin Mangum, stated that service officials favored

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[68] Dan Ward, "Real Lessons from an Unreal Helicopter," *Battleland, Military Intelligence for the rest of us,* May 25, 2012, accessed online January 19, 2017, http://nation.time.com/2012/05/25/real-lessons-from-an-unreal-helicopter/.

[69] Ibid.

[70] Gian Gentile, Joshua Klimas, Celeste Ward Gventer, et al., *The Army's 2013 Aviation Restructuring Initiative: Summary of Research for the National Commission on the Future of the Army* (Santa Monica, CA: RAND Corporation, 2015), 24.

[71] Ibid., 24.

buying a new aircraft to replace the OH-58D Kiowa Warrior.[72] Budget restrictions, specifically sequestration, would further hamper additional developments to replace the OH-58D in 2013. The proposed cost to procure a fleet of new armed aerial scout helicopters was estimated to be at least $16 billion. The other alternative was to modernize the OH-58D which was estimated to total $10 billion, $3 billion for cockpit and sensor upgrades and $7 billion for a service lift extension. According to MG Mangum, "It was going to be putting new shoes on an old horse for $10 billion. Oh, by the way, we don't have that $10 billion."[73]

Thus, in 2013 the Army decided to restructure Army Aviation through the Aviation Restructuring Initiative (ARI). ARI was a major force redesign effort that was designed to rebalance aviation assets across the Army's total force.[74] ARI is a product of the sequestration provision of the 2011 Budget Control Act (BCA) which went into effect in March of 2013. The Army was forced to make substantial cuts to its fiscal year (FY) 2013 and 2014 budgets as well as its planned programs between FY 2015-2019. Under the provisions of the BCA, Army Aviation did not address aviation modernization programs as they were unaffordable. Between July and October 2013, Army Aviation developed an alternative approach that would "(1) place force structure and modernization programs on a fiscally sustainable path, (2) rebalance capabilities across the Regular Army and reserve components to maximize capacity for meeting combatant commander and homeland defense demands, and (3) preserve as many of the Army's modern and capable systems as possible."[75] In light of these objectives and the desire to save money

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[72] Valeria Insinna, "Battle Brewing Over Future of Army Aviation Programs," *National Defense Magazine,* March 1, 2014, accessed online November 29, 2017, http://www.nationaldefensemagazine.org/articles/2014/3/1/2014march-battle-brewing-over-future-of-army-aviation-programs

[73] Ibid.

[74] Gian Gentile, Joshua Klimas, Celeste Ward Gventer, et al., *The Army's 2013 Aviation Restructuring Initiative: Summary of Research for the National Commission on the Future of the Army,* (Santa Monica, CA: RAND Corporation, 2015), iii.

[75] Ibid., 1.

immediately, ARI proposed several changes to the Army's fleet of rotary-wing aircraft. Two specific changes were proposed for the Army's fleet of attack and reconnaissance aircraft. First, the divestiture of the older OH-58Ds and the cancelation of the associated Cockpit and Sensor Upgrade Program (CASUP), which allowed funds to be redirected to other aviation programs. And secondly, the transfer of all AH-64s from the Army National Guard (ARNG) to the Regular Army to replace the older OH-58Ds and teaming them with unmanned aerial systems to provide the reconnaissance capabilities the OH-58Ds previously provided.[76] The cancellation of the CASUP alone saved Army Aviation in excess of $500 million in 2014 and 2015. These monies were immediately reinvested to help alleviate major aviation modernization challenges.[77] In retrospect, the Army made the "hard," right decision. Extending the life of the OH-58D in a budget constrained environment was not worth the cost of limping the aircraft into another decade or more of service, especially when some of the money saved could be immediately recapitalized into modernization or updating the current advanced aircraft in the inventory. The question for Army Aviation now becomes: can the AH-64 Apache coupled with unmanned systems fill the AAS role the Army still desperately needs in the 21st century battlefield?

Major JD Swinney, at the time of publication a student at the Command and General Staff College, attempted to answer this question in an article entitled "An Attack Reconnaissance Helicopter for Tomorrow's Conflict" published in *Small Wars Journal*. He proposed "a post-information revolution, post-digital revolution Army that is moving to a smaller and more agile force, while at the same time facing fiscal constraints should consist of only one attack reconnaissance helicopter."[78]The OH-58D Kiowa Warrior was upgraded from the OH-58 A/C Kiowa with advanced sensors and firepower in the late 1980s as an interim solution to fill the

[76] Ibid., 11.

[77] Ibid., 12.

[78] JD Swinney, "An Attack Reconnaissance Helicopter for Tomorrow's Conflict," *Small Wars Journal*, April 18, 2014, accessed November 29, 2017, http://smallwarsjournal.com/jrnl/art/an-attack-reconnaissance-helicopter-for-tomorrow%E2%80%99s-conflict.

void until the RAH-66 Comanche was fielded. As discussed previously, this fielding never occurred and the OH-58D continued to see minor improvements and upgrades attempting to maintain its relevancy on the modern battlefield. The AH-64 Apache was specifically designed to destroy massed formations of armored vehicles against the encroaching threat in Europe from the Soviets in the Cold War years. JD Swinney argued that neither the Apache nor the Kiowa Warrior is right for the 21st century battlefield. He argued the "Kiowa is not the right choice for the one aircraft solution: too small, too old, not survivable. Neither is the Apache; too big, too old, too one-dimensional."[79] Therefore, the Army should pursue the acquisition of a single aircraft that is multi-role to assume both the attack and reconnaissance mission roles. The divestiture of the OH-58D Kiowa Warrior in lieu of a mixed fleet of AH-64s and unmanned aerial systems, while the right decision in a fiscally constrained environment, should be viewed as an interim solution, and not the panacea.

Fortunately, Army Aviation does not view the mixed fleet of AH-64s and unmanned aerial systems to be the aviation force structure of the future. The AAS is still an Army requirement, but Army Aviation is looking long term to fill the void as it looks to the years 2025 – 2035 to field a Future Vertical Lift (FVL) Armed Reconnaissance helicopter. FVL is focusing on improving range, speed, payload, and performance of its aircraft with the requirement to operate out of austere locations alongside ground forces. Additionally, these aircraft will be equipped with systems that enhance situational understanding in air-ground operations through rapid data transfer between air and ground systems.[80] As the Howze Board determined in the 1960s, Army Aviation must be focused on supporting ground forces, the future AAS will do precisely that.

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[79] Ibid.

[80] US Department of the Army, TRADOC Pamphlet 525-3-1, The US Army Operating Concept: Win in a Complex World 2020-2040 (Fort Eustis, VA: US Army Training and Doctrine Command, 2014), 38.

Conclusion

As demonstrated in the beginning of this paper, Army Aviation has been in a constant state of change to meet the requirements of the Army and nation since its original founding near the end of the Civil War with the Balloon Corps. Fortunately, for the majority of that time those changes were directed to ensure that ground force commanders had the requisite aviation support required to meet their needs. Several times throughout history, Army Aviation pulled away from supporting ground units in pursuit of aviation's internal interests and lost visibility on their sole purpose of supporting the Soldiers and commanders on the ground. The separation of the Army Air Corps from the Army at the end of World War II as the Air Corps pursued strategic bombing as the panacea to end the war, and the over reliance on attack aviation deep strike mentality are two examples throughout aviation's long history in which the focus on supporting ground commanders in close combat was abandoned. Army Aviation must remain focused on meeting the needs of the ground commander and change to meet the current demands of the force in conducting Unified Land Operations and Multi-Domain Battle against a peer / near-peer threat.

For the most part, changes in force design and meeting emerging threats in interwar periods drove change within the Army. This is where Army Aviation finds itself today as the Army extricates itself from primarily counter-insurgency operations in both Iraq and Afghanistan and refocuses on greater threats throughout the world that are just as capable, if not more capable, than our present forces. To meet these requirements, Army Aviation must change its training methodology, approach to junior officer leader development, force structure and pursuit of an armed aerial scout aircraft platform.

In terms of training, the focus over the last eighteen years of conflict in support of the Global War on Terror led to employing aircraft in small teams of two to three aircraft responding to troops-in-contact calls sustaining as best as possible aviation coverage twenty-four hours a day. This mindset must change as peer / near-peer threats emerge in the contemporary operating environment. Army Aviation must focus on applying overwhelming combat power at the decisive

point on the battlefield using mass, flexibility, lethality, and agility to ensure our enemies face multiple complex dilemmas on the battlefield. Techniques in flying at nap of the earth altitudes using terrain to mask movement to negate the effects of adversaries with significant air defense capabilities in anti-access aerial denial environments need to be relearned. Army Aviation again needs to focus on training in austere environments, conducting aircraft maintenance from field environments and establishing assembly areas away from hard stand locations. These are critical capabilities which have been lost in the last eighteen years as aviation assets typically fell in on airfields and structures already in place.

Army Aviation must refocus its junior officer leader development to ensure platoon leaders and company commanders are capable of fighting their formations in a decisive action threat environment. BOLC made significant changes to their POI in 2015 to ensure aviation lieutenants learn the intricacies of detailed planning and execution of missions involving platoons of aircraft, not just a team of aircraft. This is a great start to ensuring aviation's platoon leaders can lead their platoons, but much work must be done within units to capitalize on their BOLC education. Platoon leaders should be empowered to command their platoons by focusing on leading as an Air Mission Commander first, then becoming an expert in the aircraft as a Pilot-in-Command. Without investing in their warfighting capability as a leader (AMC), aviation runs the risk of placing captains into command who have never demonstrated the aptitude to lead their formations.

Army Aviation must address the lack of a lethal and robust reconnaissance and security capability provided to the corps commander in the conduct of operations. The divestiture of the corps attack aviation battalions in early 2004 was the right decision to place more capability in the hands of our division commanders during counter-insurgency operations. However, in a decisive action environment, the corps must be able to shape the battlefield for the division fight with aviation platforms. The divisional cavalry squadrons at division and the armored cavalry regiments with organic aviation capabilities is a way to provide the corps and division

commander with the “eyes and ears” and attack aviation capability to properly shape the battlefield for the next echelon. By re-organizing Army Aviation’s structure, they could accomplish this goal.

Finally, sequestration placed Army Aviation in a dilemma to continue to modernize antiquated aircraft or focus on the long term and provide interim solutions to Army Aviation’s reconnaissance and light attack capabilities. Though divestment of the OH-58D Kiowa Warrior was the right decision to immediately re-invest in vital technologies, the teaming of the AH-64 Apache with unmanned systems to fill the reconnaissance role can only be viewed as a band-aid solution. Continued research and development to deliver an armed aerial scout should be a priority for Army Aviation to provide the ground commander with a capable reconnaissance and security platform.

Army Aviation is a force multiplier that must constantly change and adapt to meet the needs of the nation, the Army, and most importantly the ground force commander. Through changing the training methodology, empowering junior officers through leader development, modifying force structure, and obtaining an armed aerial scout, aviation will continue to be the ground commander’s weapon of choice in the contemporary operating environment facing a peer / near-peer threat. Aviation must remain committed to the words Alfred Cunningham expressed so long ago, “The only excuse for aviation in any service is its usefulness in assisting the troops on the ground to successfully carry out their missions.”

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