THE AIR CLOSE TO THE TREES: EVOLUTION AND INNOVATION IN U.S. ARMY ASSAULT HELICOPTER UNITS DURING THE VIETNAM WAR

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts

By

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Adam Thomas Givens ENTITLED The Air Close to the Trees: Evolution and Innovation in U.S. Army Assault Helicopter Units during the Vietnam War BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts

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ABSTRACT


Throughout the Vietnam War the United States Army’s use of assault helicopters was unprecedented in modern warfare. Although planners originally anticipated their utilization on a European battlefield rather than against an insurgency, Army Aviation adapted, allowing them to overcome an uncertain future. Due to the unconventional nature of the conflict, continual revisions in tactics, techniques, and procedures ensured that assault helicopter doctrine was never concrete, but always shifting. Multiple factors influenced these developments, and manifold channels of dissemination allowed combat knowledge ultimately to influence training and doctrine. This thesis finds that previous works focus too heavily upon the initial large-scale airmobile battle, ignoring the more profound aspects of later experiences. Using memoirs, official Army documents, service journals, and personal papers, it argues that innovation amongst assault helicopter units occurred throughout the entirety of the American involvement in Vietnam, signifying a youthful Army Aviation that was amenable to varied and innovative thinking from within its ranks.
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INTRODUCTION

Few of America’s past wars have engendered as much passion, continued supposition, and even confusion as the Vietnam War. Indeed, the name itself is for some descriptive of an ill-advised endeavor – an era of torment or an unending conflict with no discernable end. If Vietnam is synonymous with a situation gone wrong, then there is one central image which has become a ubiquitous symbol of the American presence in Southeast Asia: the helicopter. Its rotor noise was the soundtrack for a generation sent to fight in the region’s forests, jungles, and rice paddies. Nightly news reports often brought combat to the nation’s living rooms, and more often than not helicopters were the central image depicted, further connecting war and machine in the public consciousness. Arguably, few symbols have become so inextricably linked to a conflict in which United States forces were involved.

This thesis argues that, rather than enjoying comprehensive formulaic employment, assault helicopter tactics, techniques, and procedures used by the United States Army during the Vietnam War underwent continual revision. It posits that this was not only a product of combat expediency, but the result of open-mindedness within Army Aviation which allowed new ideas to become useful doctrine. Much of the previous literature on airmobility details the evolution of the concept preceding Vietnam, but few trace the Army’s evolution of techniques, tactics, and procedures throughout the war. Incorrectly, one might assume from this historiographical lacuna that helicopter crews’
standard operating procedures remained in stasis and were standardized throughout Vietnam, leaving nothing of any great importance worth examining. There is much to be learned, though, from an analysis of the era between American escalation and withdrawal.

The 1950s and early 1960s witnessed considerable theorizing and testing by the Army regarding the employment of helicopters on a modern field of battle. The entire concept of utilizing the aircraft as troop carriers was a product of the Cold War – military planners intended to use them on a European battlefield against large-scale communist incursions, not in Southeast Asia against an insurgency. As a result of an immediate need, however, Army forces adapted airmobility operations to the “brushfire war” mentality of small regional conflicts.

The 1st Cavalry Division, the first airmobile division, garners the lion’s share of notice in the historical record. Their combat debut in late 1965 and subsequent first victory during the Battle of Ia Drang is without doubt a groundbreaking moment – it upheld over a decade of prior theorizing about the airmobility concept. Yet, Ia Drang signaled only the beginning of assault helicopter’s wide-scale usage and evolution during the Vietnam War. Army Aviation’s extensive use of rotary-wing aircraft was not a fait accompli, nor was their implementation something they inherently knew how to accomplish easily. It took considerable efforts by those among the aviation and ground forces to translate experiences into agreed-upon doctrine.

Most scholars have done an excellent job detailing the bureaucratic measures which fostered the development of the helicopter and its first large implementation by the 1st Cavalry. Regarding airmobility’s transition to its role in counterinsurgency, however,
there are far fewer studies. With that in mind, multiple questions drive this work: namely, how well did the Army’s ideas about the employment of helicopters hold up under the stresses of combat? How did tactics and doctrine evolve, what caused them to change, and what were the mechanics which allowed the implementation of new ideas? Broadly speaking, was the Army interested in using Southeast Asia as a test-bed for universal doctrine or did they intend to keep tactical lessons applicable to Vietnam strictly within that theater? By addressing and answering these questions, this thesis intends not to find fault in previous treatments but to augment them in an attempt to fill a historiographical gap.

Among the varied literature, one of the best scholarly works to explore pre-Vietnam Army Aviation is historian Christopher C.S. Cheng’s *Air Mobility*. He offers a thorough examination of doctrine and organization from 1942 through 1965. Cheng ends, though, at the initial large-scale involvement of American forces in Vietnam, leaving many questions unanswered about how doctrine changed after battlefield experiences. He concludes at 1965 “because the creation of an air mobile division can represent the fulfillment of an innovation.”¹ It may be true that the initial vision of airmobility was fulfilled in that year, though one wonders about the performance of the concept. Cheng ends his work at the headwaters of some of the most rapid innovation the air assault concept underwent during the war.

The same abrupt conclusion to Cheng’s work is present in another equally respectable analysis. John M. Carland’s Association of the United States Army-sponsored paper, “How We Got There: Air Assault Warfare and the Emergence of the 1st Cavalry

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Division (Airmobile), 1950-1965,” details the emergence of the airmobile concept, but also ends before its battlefield application. ² Despite this thorough analysis, the era between the 1st Cavalry’s activation and what they experienced during combat is still overshadowed by the revolutionary aspect of the airmobile division. It is important to examine how their combat experience affected later actions, or how well the division’s extensive training prepared them for fighting North Vietnamese regulars and what they did as a result to address lessons learned.

Other works closely related to Carland’s also deal with the developmental stage. Bureaucratic pressures in the early 1960s from Secretary of Defense Robert S. McNamara led to a reevaluation of the Army’s ability on the modern battlefield. McNamara ordered large-scale testing to determine the applicability of the helicopter into airborne operations and the Army commissioned the Howze Board to outline recommendations for forming dedicated airmobile units.³ Mark A. Olinger’s Institute of Land Warfare Paper “Conceptual Underpinnings of the Air Assault Concept” elucidates well the governmental pressures to develop airmobility.⁴ He ends in 1964, however, when the stateside testing concluded and the Army formed the first airmobile division.

John R. Galvin’s Air Assault also highlights the development of airmobility. Like Cheng and Carland, the author covers the birth of the concept, but begins earlier, tracing its lineage to World War II parachute operations. Only the final twenty pages of the 360


³ The Board’s name derives from its Chairman, Major General Hamilton H. Howze, who became the first Director of Army Aviation. Officially it was called the U.S. Army Tactical Mobility Requirements Board.

total, however, deal specifically with the post-1965 era. Published in 1969, Galvin could only cover some aspects of the Vietnam War, and to expect his work to contain a detailed interpretive analysis of the continual developing nature of airmobile operations is perhaps unrealistic. However, his research is helpful in outlining the transformation from an Army which relied upon large-scale airborne assaults by parachute to one which developed a dependency on helicopters.

Perhaps the most authoritative examination of the employment of helicopters in Vietnam is Lieutenant General John J. Tolson’s *Airmobility*. A central figure in Army Aviation, Tolson gives a detailed history of how doctrine transformed from the theoretical to the battlefield-proven. An Army-commissioned study published in 1972, his work deals broadly with all aspects of airmobility and its development. While it may be the best overall look at the helicopter’s role throughout Vietnam and the subsequent evolution of its application, there are many aspects which he deals with only in passing. He pays little attention to the actual mechanics of gathering information learned on the battlefield and how the Army disseminated those lessons for inclusion in training programs. The lack of historical distance, the author’s own personal relation to the subject matter, and the fact that it is a governmental history constrict what is otherwise the authoritative work on airmobility.

Such dedicated analysis of the formative era of heli-borne warfare is useful to understand the framework which existed in the early usage of airmobility in Vietnam. Most works agree that airmobility was one of the most significant innovations to come out of the war in Southeast Asia. Despite this near universal conformity, however, few

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works have attempted to understand the profound expansion and progression of helicopter usage other than through superficial examinations of battlefield expediencies. The maturation of airmobility was not an accomplished fact when the 1st Cavalry Division landed in 1965. Rather, throughout the war, and even into 1971, Army Aviation continually learned and refined their assault helicopter tactics and techniques.

In order to understand that Army Aviation did not arrive in Southeast Asia with a solid framework of how to fight an insurgency, the first chapter offers an historical overview of the era preceding large-scale operations in Vietnam. It is largely an institutional history which traces not only the early difficulties of helicopter proponents, but illustrates how important Vietnam was to solidifying the use of helicopters as a viable combat asset. Army Aviation’s ascendancy to become a respected force was not easy. A mixed reaction Army-wide regarding helicopters began in the 1950s, continuing into the 1960s. This is not particularly surprising, though, as groundbreaking military advancements often meet some amount of obduracy and dubiety – mechanized warfare in the interwar period and Billy Mitchell’s own struggles are only two examples. Extensive use of helicopters in Vietnam proved no different.

The Army found themselves pulled in two opposite directions, requiring them to prepare for a European war while also remaining capable of fighting any other contingency. Forming a general purpose airmobility capability was easier said than done. By and large the Army focused more intently on a European foe, believing that preparations against a sophisticated enemy could be easily adapted to meet a less-advanced opposition. With that mindset they sent the first helicopters to the Republic of Vietnam in 1961. From a small commitment of three dozen aircraft, their numbers grew
exponentially in the following years, proving detractors wrong who believed the helicopter had little utility beyond a simple logistical or medical evacuation platform. While simultaneous testing and support for their use in a European war continued, the demands of Vietnam ultimately eclipsed those plans.

Army Aviation adjusted rapidly to a counterinsurgency. With the airmobile division’s successful employment, Europe became an ever-more distant worry. In that way, rotary-wing aircraft found new purpose and immediate usefulness in an environment far removed from the one originally envisioned. The 1st Cavalry Division’s success allowed for a speedy expansion of Army Aviation, as the overall American commander in Vietnam, General William C. Westmoreland, believed helicopter mobility was the panacea to the perplexing insurgency quandary. Ia Drang and the larger Pleiku Campaign in which that battle took place offered many lessons. Foremost among them was that airmobility, while proven effectual in a non-conventional setting, still had jagged edges in need of smoothing – something only further combat could provide.

Chapter two discusses Army Aviation’s acclimation to a counterinsurgency. Throughout the Vietnam War, assault helicopter units continually adapted and refined their tactics and procedures. Four main factors influenced these developments: the Army’s increasing reliance on helicopters to fight a war of attrition meant they took on more pronounced roles, requiring alterations in procedures and tactics; large-scale employment of the aircraft meant both the aviation and infantry communities had to learn how to interact with one another – helicopter units had to “educate” their ground counterparts about how to use them properly; attempts to standardize techniques and procedures were not easily accomplished due to varied geographic and tactical
environments; and, finally, the enemy’s ability to revise their own methods necessitated commensurate tactical and procedural responses from helicopter units. Prior scholarship hints at these realities in varying degrees, but mostly in terms of technological developments.

Army Aviation’s concerted efforts to develop reliable doctrine can be found in the methods they used to disseminate their insights. Chapter three examines the varied ways that ideas, observations, and combat knowledge found a wide audience during Vietnam. It argues that without these communication networks, innovation and revision could not have been as quick or dynamic. Through official reports, service journals, stateside training, and in-country orientation, the Army was able to gather, disseminate, and redistribute a vast array of data. By taking advantage of multiple channels of communication, Army Aviation tied doctrine, training, and even personnel issues closely with the war in Vietnam. In many cases these multifarious ideas and methods never made it into official Army manuals. This thesis does not examine such source material in-depth for this reason, but also because manuals are fundamentally the ultimate destination for well-regulated ideas.⁶ They constitute an official articulation of doctrine and tactics which, while informative, fail to illuminate the pace of change, the nuanced thought emanating from the combat zone, and the degree to which real innovation took place.

In addition to Army Aviation’s communication of thoughts amongst themselves, their youth compared to their more established service branch brethren also proved

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⁶ To an extent the Army understood the impossibility of detailing all the varied methods available to the helicopter pilot. The 1969 field manual, *FM 1-105: Army Aviation Techniques and Procedures*, makes known that it provides only “condensed coverage” of only the “basic methods.” Furthermore, the staff who compiled the manual understood that the “variations and combinations the aviator may use in adapting to the many situations to be encountered are almost limitless.” Department of the Army, *Field Manual 1-105: Army Aviation Techniques and Procedures* (Washington DC: Department of the Army, 1969), 1-1.
beneficial. Given the nascence of airmobility and their developing use of helicopters in such significant roles, there were few impediments to formulating doctrine. One would have been hard pressed to find obstinate traditionalists upholding a battle-tested approach versus a revised method. Indeed, in the early years of the Vietnam War there was no battle-tested experience to fall back upon, no historic precedent of U.S. assault helicopters in a counterinsurgency role. As a consequence, most aviators were open to somewhat radical ideas.

This work focuses on Army assault helicopters for specific reasons, the principal one being because they represent the central element of the airmobility concept. Though all helicopters assisted ground units in some manner, the utility helicopter, which made up the bulk of assault helicopter battalion, companies, and platoons, was the most widely-used aircraft during the Vietnam War. These aircraft – most often after 1965 the Bell UH-1 “Huey” – hauled troops to and from the combat zone; carried munitions, supplies, and equipment to ground troops; acted as command and control aircraft for greater tactical control; and generally fulfilled whatever role needed. Indeed, the hallmark of the assault helicopter unit was their inherent versatility, which the Army believed “should not be restricted to a single type operation.” When viewed in this light, assault helicopters were the most versatile of all the helicopters employed in Southeast Asia. The Army’s Huey was also the most visible aircraft of the Vietnam War, the iconic image. The Vietnam Helicopter Pilots Association reports that of the 10,005 production Hueys, the Army took receipt of 9,216 of them, the majority being troop-carrying variants. While the other

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7 The term “assault helicopter” is intended as a catch-all. Technically, the Army’s designation of such aviation units changed throughout the war, from Transportation, to Air Mobile (Light), and finally Assault Helicopter. Their functions and roles were not affected by any re-designations.

8 United States Army Aviation School, Common Subjects and Reference Data for Army Aviation in the Field Army, January 1968 (Fort Rucker, AL: United States Army Aviation School, 1968), 81.
service branches also used the Huey, the Marine Corps was the second most prevalent user of the aircraft behind the Army with only 127 in their inventory. The sheer number of these helicopters used by the Army, their wide usage, and their centrality to airmobility makes it important to examine the use of the assault helicopter in-depth.

Other types of Army rotary-wing aircraft experienced innovation and alterations in role and method as well. One should not underestimate the groundbreaking nature of the attack helicopter (AH), cargo helicopter (CH), and observation helicopter (OH). There still remains a wealth of information hidden in the historical record about these helicopters in Vietnam, not yet illuminated by historians of this topic. In the interest of scope and space, though, this study must only shine a weak beam on a comparably small issue; regardless of the many aspects of airmobility, it focuses on a central facet of the concept’s innovation. Furthermore, library shelves strain under the weight of works which detail perceived errors by the Army in both how they viewed and executed the war. This project’s intent is not to determine whether the Army’s wide use of assault helicopters was the proper approach or not, but how the aircraft, men, and institution met the challenges they faced. To that end, discussions of overarching national policy, strategy, and policy of the United States are confined to their relation to Army assault helicopters.

It is at this point necessary to define the terminology common to studies of this topic. The terms “air assault” and “airmobility” are used interchangeably. Some made distinctions in the early era of the airmobility debate. Air assault, they argued, was the integration of aircraft into an organizational division. Airmobility, on the other hand, they

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considered the capability of moving men and equipment by air. Tactics, techniques, and procedures are simple terms intended to describe sometimes complicated functions or concepts. In the following pages, they describe the manner in which assault helicopter units executed missions, including formations, altitudes, landing zone approaches and preparations, anti-aircraft defense measures, and various other methods common to combat operations. This thesis does not laboriously enumerate the varied and complicated aspects of these, because, in many ways it would be an impossible task. Helicopter units devised so many unique procedures that collecting and presenting them by region and time would be not only onerous to both compiler and reader, but also somewhat valueless. Unless well-versed in the mechanics and execution of such tactics and principles of helicopter warfare, the detail would largely obfuscate the overall argument – that there actually was evolution and innovation throughout the Vietnam War, rather than what those particular components might have been.

In sum, this study can illuminate what remains an overlooked and opaque element of the Vietnam War. The evolution of assault helicopter tactics was not necessarily something unique in warfare. Indeed, for an application of a new technology to become effective there must be an era of refinement which combines lessons learned from past experiences into a program of efficiency. When operations began in 1961, Army pilots had no combat experience from which to derive a doctrinal approach to the operations they were tasked with performing. Their initial experiences may have given insight into the possibilities of the helicopter, but it fell upon those who came later to redefine the limits of Army Aviation’s capabilities. Each generation of American helicopter pilots who have followed can trace their tactical lineage to Southeast Asia.
Indeed, for the better part of almost two decades, the Vietnam War was the only major basis of combat-tested knowledge from which the U.S. Army could derive combat experience. Despite being a vibrant era for helicopter advancements, the Vietnam War was only the first chapter – the densest chapter – in what remains an evolving narrative still today.
CHAPTER 1: THE EARLY YEARS

Army Aviation experienced a hectic decade before they began operations in Southeast Asia. They did not arrive as a force with explicit combat-proven doctrine. What they did benefit from before large-scale employment of assault helicopters, however, were important moments of action and thought. Their journey began with small steps. Pre-Vietnam rivalry steeled the nascent organization, as their use of helicopters was experimental and even controversial, causing interservice friction. In the early Cold War milieu of deterrence and potential nuclear war they struggled to legitimize their proposed role. Though helicopters were not the central component of a revised strategy, visionary members inside the Army and the government championed a military more dependent upon the aircraft. Airmobility evolved significantly during this short time, and helicopters found new relevance in an unlikely environment. Military planners altered their focus from the main contingency of a war against the Eastern Bloc to a growing insurgency in Vietnam. Army Aviation transitioned to meet the guerilla threat while simultaneously testing stateside the revolutionary concept of an airmobile division. Antiquated equipment, constricting command relationships, and lack of concrete doctrine hampered early wartime efforts. However, experience gained in both Vietnam and the United States assisted in improving future capabilities. The airmobile division’s first battle in 1965 was the culmination of year’s worth of theorizing and training, but only the initial evaluation of large-scale helicopter warfare.
Early Proponents

Army Major General James M. Gavin was one of the earliest influential proponents of airmobility. Already known for his innovative spirit and visionary outlook while commanding the 82nd Airborne Division during World War II, his April 1954 Harper’s magazine article signals the beginning of an embryonic debate. The aptly titled “Cavalry, and I Don’t Mean Horses” proposed that helicopters offered increased “momentum.” Arguing that the nuclear age necessitated highly mobile forces dispersed over vast terrain, Gavin suggested a combined armor and air cavalry. With an image of the European battlefield in mind, he asserted that “in ground combat the mobility differential we lack will be found in the air vehicle.”

Throughout the 1950s, the incipient airmobility concept began to gain support among influential proponents within the Army. The helicopter’s combat usefulness had become apparent during the Korean War (1950-1953), when they used modest numbers of them to fly logistical missions or as medical evacuation vehicles. The United States Marine Corps (USMC), not the Army, was the first branch to use successfully helicopters in combat situations as became common practice in Vietnam. Throughout the Korean War, Marines experimented with rotary-wing aircraft to supply and transport infantry, capably relocating entire battalions. Upon witnessing the utility of USMC helicopters, Army General Matthew Ridgway, acting as Commanding General of Far East Command, suggested in 1951 that the Department of Defense create up to four transportation

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helicopter battalions for the Army.\textsuperscript{12} Though his recommendation was reduced to two companies, the request indicates the growing significance of the aircraft to forward-thinking individuals.

In August 1954 the Army took further steps to develop their own organic aviation capabilities, reactivating the once defunct Camp Rucker for use as the Army Aviation School. In October 1955 aviation found a permanent home there, re-designated Fort Rucker.\textsuperscript{13} Given President Dwight D. Eisenhower’s policy of massive retaliation, though, the Army struggled to explain their legitimacy in an era where military action would be dominated by their service cousins’ high-flying strategic bombers.\textsuperscript{14} United States Air Force (USAF) staff officers hinted that the only usefulness of traditional Army infantry in the nuclear age would be to act as security forces for missile and bomber bases. With budgetary restrictions from Eisenhower’s “New Look,” military planners clamored to prove they were still relevant. The Navy, USAF, and USMC all made efforts to implement helicopters in their operations. Compared to the Army, though, others had to maintain extensive and expensive fixed-wing units simultaneously, detracting from their budgets and willingness to implement rotary-wing aircraft in a large scale.

The Army, however, saw the opportunity to utilize the burgeoning technology and marry it with a reworked strategy. In this milieu, their strategists adapted helicopters from

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\textsuperscript{12} Ibid., 76; Cheng, \textit{Air Mobility}, 44.


\end{flushright}
a limited role to an important tactical machine. Mobility, the era’s buzz word in the military community, became the focus when anticipating Soviet armor storming across the plains of Europe. A larger battlefield due to the range and lethality of nuclear weapons meant conventional ground transportation would prove too slow and vulnerable. For that reason, planners believed helicopters necessary to quickly insert troops and supplies where needed. They understood the future battlefield to be one “characterized by fluid operations of units dispersed under the threat or actual use of nuclear weapons.”

Wishing to enhance infantry mobility, they hoped to “break free of the ground barrier,” doing so by turning “to Army Aviation and the airspace just above the earth’s surface as a partial answer to its needs.”

Realizing that nuclear weapons altered how armies would fight future wars, Army Chief of Staff Ridgway and his staff determined that helicopters would have to provide transportation, evacuation, supply, and communications – all roles the helicopter filled in Vietnam.

**Interservice Rivalry**

The Army’s desire to expand their aircraft inventory soon ran them afoul of the Air Force, however. This was the result of a crisis of identity between the two branches. As political scientist Frederic Bergerson explains, the Air Force wished to protect their role as the dominant practitioners of flight in the U.S. military. The Army existed as the “defender of the terrain,” and as Bergerson argues, “their style reflected the vicissitudes of natural forces – cautious, slow, close to the ground.” Conversely, the USAF role was as defenders of the air, and in “such an ethereal atmosphere, it is not surprising that these

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16 Ibid.
men clung tenaciously to the tangible air vehicles which took them and their identity aloft.”\textsuperscript{18} Leaving aside the metaphysical, though, the very real purpose of the Air Force’s aversion towards an expanded Army air capability is that they felt it encroached upon their function – if it flew it should belong to the Air Force. An agreement existed, though, originating from the National Security Act of 1947 which in part created the USAF, allowing the Army to possess organic aircraft. Despite such an accommodation, there were limitations to expansion. The Key West Agreement of 1948 between the Navy, Army, and the fledgling Air Force permitted the Army to retain limited aviation capabilities, but made no allowances for aircraft employed tactically as planners came to envision their role. Instead, the Air Force was to “furnish close combat and logistical air support to the Army,” which included air lift, support, reconnaissance, and resupply operations – all functions the Army eventually sought to handle themselves.\textsuperscript{19} Likewise, the 20 May 1949 Bradley-Vandenberg Agreement intended to arrest further the numbers of aircraft by instituting weight restrictions on Army helicopters.\textsuperscript{20}

Both branches acquiesced regarding further conditions in a 1950 agreement, stipulating the USAF would solely develop, supply, and conduct maintenance on Army aircraft.\textsuperscript{21} In a bid to guarantee weakened Army Aviation, the Air Force attempted to usurp their usefulness by proposing their own assault helicopter squadrons.\textsuperscript{22}

\textsuperscript{18} Ibid., 65.
\textsuperscript{19} Memorandum to the Joint Chiefs of Staff, “Note by the Secretaries to the Joint Chiefs of Staff on ‘Functions of the Armed Forces and the Joint Chiefs of Staff,’” (21 April 1948), p. 11, General Military History Collection, Combined Arms Research Library Digital Library, Fort Leavenworth, KS.
\textsuperscript{22} Harwood, \textit{Interservice Rivalry and Airpower in the Vietnam War}, 23.
obstructions throughout the 1950s and well into the 1960s did slow advances in Army airmobility, but Air Staff members understood that to continue their preclusions and simultaneously maintain their future ambitions required a trade-off. Ultimately, as a means to maintain their primary role in massive retaliation, plans for their own assault helicopter squadrons lost out to the high-technology appeal of strategic nuclear delivery.\(^23\)

During this era the Army lacked a single policy regarding the development of helicopter doctrine, resulting in multiple studies which acted independently without assisting or informing each other. The latter 1950s, however, witnessed a more focused attempt at establishing a singular program.\(^24\) The creation of a helicopter force was aided by the growing realization among policy makers that although nuclear war remained a distinct possibility and still prevailed as the central focus of American foreign policy, limited war was a growing potentiality.\(^25\) The 1958 Lebanon intervention and the Quemoy crisis indicated that massive retaliation offered few alternatives to total war, no matter the insignificance of the provocation.\(^26\) Reorganization among the Army occurred in 1961 to reflect this understanding.\(^27\) Under the new framework, division aviation assets

\(^{23}\) Ibid., 23-29.


\(^{26}\) Cheng, *Air Mobility*, 70.

grew from company-size to battalion, a structure which the Army carried into Vietnam. As historian Christopher Cheng notes, however, while “these new developments in Army aviation were significant, it was still a relatively evolutionary step . . . [the] reorganization did not create any major air mobile force.” Even though the numbers of helicopters grew, for the most part units acted autonomously, without any official dictates of how they fit into a programmed combat structure. It took American intervention in Southeast Asia before airmobility took that next crucial step.

**Rotors over Vietnam**

The first U.S. helicopters arrived in Vietnam aboard the USNS *Core* on 11 December 1961. The 57th Transportation Company (Light Helicopter) and the 8th Transportation Company (Light Helicopter) participated in the earliest airmobile operation of the war on 2 January 1962 when Army CH-21 Shawnees successfully airlifted 1,000 Republic of Vietnam (RVN) paratroopers against a Viet Cong headquarters near Saigon. Codenamed “Operation Chopper,” it signified the first phase of airmobile operations and the start of a decade-long proving ground for Army Aviation.

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30 Another prevalent error is the date of the first air assault. Though some claim it occurred on 22 December 1961, that was a joint training exercise between the 8th and 57th Light Helicopter Companies. Some have likely confused the 2 January 1962 assault which consisted of over 1,000 South Vietnamese paratroopers. Tolson, *Airmobility 1961-1971*, 2; Harper, “Logistical Support of Airmobile Operations”, 10; Battalion
According to General Maxwell D. Taylor, Military Adviser to President Kennedy, Vietnam was a suitable location for helicopters to operate. A lack of passable roads for ground mobile units or adequate communication lines hindered the RVN government’s ability to fight communist incursions into the hinterland. U.S. aircraft promised to give the Army of the Republic of Vietnam (ARVN) quick response to the enemy’s guerilla operations and to expand governmental control in the provinces. Furthermore, helicopters offered a degree of safety – they could overfly much of what was becoming dangerous territory, since ground routes were often susceptible not only to ambushes, but mines.

Initially, thirty-two CH-21 Shawnees from the 57th and the 8th operated out of Tan Son Nhut Air Base near Saigon. Three more companies augmented them that year: the 33rd, 81st, and 93rd of the 45th Transportation Battalion. In an illustration of America’s level of commitment at this early stage, the 130 aircraft comprised almost twenty percent of the Army’s available inventory.32

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31 Tolson, Airmobility, 16.

32 Wayne K. Roberts, “Early Evolution of Helicopter Tactics,” Vietnam, Vol. 9, No. 1 (June 1996), 20. The rest of the Army’s aircraft were spread throughout the world, most of them either in the United States, Germany, or Korea.
Early Problems

This period, however, was fraught with multiple problems. First, the relatively limited number of aircraft and pilots meant they were not able to experiment much beyond the normal demands of missions. Opportunities for gaining experience were limited to when the ARVN needed support, but even then command problems limited flexibility. American involvement was still technically an advisory effort. Transportation companies operated on a single-mission basis, attached to U.S. advisers who controlled mission planning and coordination. These advisers, however, had finite authority. Given their limited role they could not necessarily order the South Vietnamese to operate in a particular way, but merely suggest the best course of action.

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Early missions were often uncoordinated efforts between aviators and those they supported, depriving helicopter units of control.\textsuperscript{35} Crews found that unclear command relationships required alterations in command and control, communications, and fire support methods. Concern over this policy was not confined to pilots and crews but those in the United States questioned it, too. Retired Army Brigadier General Carl Hutton, himself an early helicopter proponent and former Commandant of the Army Aviation School, expressed hesitation, saying “The divided command in Vietnam doubly weakens the tactics. In spite of the superb skill and steadfast courage of the helicopter personnel, the method of employment almost assures ultimate failure of national policy.”\textsuperscript{36}

Compounding matters, transportation companies experienced problems with their equipment. From the start there were precious few CH-21s available and replacement parts were considerably difficult to obtain, a fact exacerbated by insufficient logistical support.\textsuperscript{37} The Shawnee itself was sometimes problematic in the face of enemy fire, often proving too slow, too lightly armed, and too thin-skinned.\textsuperscript{38} Technological innovations had not kept pace with modern requirements, as the issue of antiquated equipment was

\textsuperscript{35} Tolson, Airmobility, 28.


\textsuperscript{37} By January 1963 sixteen aircraft had been destroyed in a year of operations. Of the 130 in Vietnam, almost all took damage from hostile fire. In-country units called for replacements and parts, but nearly all that could be spared were already in Vietnam. Magnifying problems in supply was the fact the manufacturer, Vertol, had ceased production of the CH-21 in 1956. “Rising Copter Losses,” Newspaper unknown, 12 January 1963, Folder 07, Box 01, Douglas Pike Collection: Unit 03 - Technology, The Vietnam Archive, Texas Tech University.

\textsuperscript{38} The CH-21 was unsuited for Southeast Asia. Humidity and high atmospheric density meant rotors had difficulty producing lift in the thin air, decreasing performance. This necessitated smaller loads and less troops per lift, only further decreased by the addition of armor and armament. Additionally, their rotor blades which consisted of wooden components suffered laminate separation; some only accumulated ten flight hours before deterioration. U.S. Army. Army Concept Team in Vietnam. “Armed Helicopter Escort of Transport Helicopters: Final Report.” APO San Francisco: ACTIV, 1964, United States Army Military History Institute (hereafter cited as USAMHI) Library, Annex B-9; Harper, “Logistical Support of Airmobile Operations,” 9.
emblematic of an army in transition. The Bell UH-1 Iroquois “Huey”, the most recognizable helicopter of the war, began testing in 1956 but did not arrive in Vietnam until September 1962.\textsuperscript{39} When it did begin operations, lack of performance forced technical revisions, leading to the replacement of the original HU-1A with the UH-1B-model by June 1963. Its stronger power plant was better suited for the high humidity, altitude density, and demanding operations.\textsuperscript{40} The Army was preparing to replace their aging aircraft, but the next generation of turbine-powered helicopters lingered stateside in the comprehensive testing phase.\textsuperscript{41}

Obsolescent Shawnees were cause for concern amongst many who flew them. Noted \textit{New York Times} journalist, David Halberstam, reported that most were “in desperate need of repairs and that the difficult and demanding combat conditions in Vietnam” caused immense mechanical issues.\textsuperscript{42} “The H-21 here,” warned one pilot, “is an accident looking for a place to happen.”\textsuperscript{43} Simply put, the first year of operations coincided with a transition period where better aircraft in the development stage since the

\textsuperscript{39} Even then they only filled an escort role, protecting Shawnees with their attached offensive weaponry. The first dedicated attack helicopter unit, the UTT (Utility Tactical Transport) is famous in its own right, but peripheral to this study. See ARMY “1962-64 UTT Armed Helicopter Company History, 15 March 1964,” Folder 1, Bud Harton Collection, The Vietnam Archive, Texas Tech University; Ralph B. Young, \textit{Army Aviation in Vietnam, 1961-1963} (Ramsey, New Jersey: The Huey Company, Inc., 1999), 74-83.

\textsuperscript{40} Tolson, \textit{Airmobility}, 28; “Modified UH-1B Gives Improved Performance,” \textit{USAAD}, Vol. 9, No. 1 (January 1963), back cover.

\textsuperscript{41} Boeing-Vertol’s replacement for the CH-21, the CH-47 Chinook, did not arrive for testing by the U.S. Army Aviation Board until 7 July 1962. Major John C. Geary, “The Chinook,” \textit{USAAD}, Vol. 6, No. 8 (August 1962), 1.

The Army did possess the more-capable CH-34 Choctaw during this time, but their lack of availability to “lift” units in Vietnam is, possibly, that they were needed in Europe – the 1961 Berlin Crisis ensured Europe remained the major military concern. Furthermore, stateside airmobility testing demanded many of the newer aircraft.


\textsuperscript{43} Ibid.
late 1950s were not yet available in appreciable numbers for combat. Despite these issues, Army Aviation still made progress improving airmobile doctrine. In less than a year of operating in RVN, as one correspondent saw it, they had learned “more substantial information upon their new ‘air-assault’ concept than had been gathered in years of earlier theorizing.”

The helicopter companies in-country were indeed learning valuable lessons which only combat could provide, and much of what they gathered was the product of continued trial and error. Soon after operations began, crews quickly realized deficiencies in their standard operating procedures. Peacetime formations were often ill-suited for the combat theater. As one former pilot noted, they “looked nice and displayed our superior skills, but reduced the scope of defensive fire and did not place the troops on the ground in optimum arrangements for attack or defense.” Just as problematic were flight altitudes customarily used stateside, which most times exposed flights needlessly to enemy fire. Most of what these first helicopter units developed were aggressive tactics far removed from earlier methods. Commenting on the casualties in men and machine by early 1963, an unnamed “high-ranking military spokesman” remarked, “Remember, this kind of warfare is brand new. We have to do some experimenting and we’re bound to make

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46 It is noteworthy that mentions of Viet Cong forces in early reports usually did not identify them as the “enemy” or “Viet Cong.” Rather, due to possible bureaucratic necessity, they referred to them as “insurgents” or the war as an “insurgency.” Possible explanations are that the U.S. was not officially engaged in war at the time, or the fact the Army was arguing Vietnam was an insurgency. Thus, combating it was a counterinsurgency and primarily an Army mission, necessitating their own supporting aviation units rather than the Air Force.
mistakes. But let’s not forget how much helicopters have accomplished here.” Vietnam quickly took on the character for which it became known. As one CH-21 crewmember observed, the Army’s struggle was “mainly a helicopter war. The helicopters are the front-line weapon.”

Through the experience of assisting ARVN forces, helicopter units drew lessons which proved invaluable not only to future operations in Vietnam, but to airmobility planners in the United States. Yet, to date Army Aviation was still engaged in a new type of warfare without official guidelines for operational planning and execution. Their tactics and procedures were largely ad hoc and not reflective of a sophisticated combined arms effort. Though their accomplishments are important, parallel developments in the United States during the same time proved to have more impactful consequences on the future of airmobility.

**Stateside Developments**

While helicopter units flew daily operations in Vietnam, Army officials in the United States continued planning for a larger airmobile force. Throughout the early 1960s, they began a series of reviews and boards to determine not only the future needs of aviation units, but how they would fight. The first official committee which studied the requirements was the Army Aircraft Requirements Review Board. Chaired by Lieutenant General Gordon B. Rogers, the deputy commanding general of the Continental Army Command, the Rogers Board reviewed potential aircraft with future combat needs in

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47 “Rising Copter Losses.”
48 Ibid.
Beginning on 15 January 1960 it analyzed 119 designs from forty five separate companies, categorizing them into transport, observation, and surveillance. Among the notable recommendations was that the Army replace “each model of aircraft at least every ten years or sooner if warranted by operational requirements or technological advances,” and that they “prepare an in-depth study to determine whether the concept of air assault units was practical and if an experimental unit should be activated to test its feasibility.”

Though the Rogers Board did indicate progress in the Army’s evolving use of helicopters, it was only a precursor of the tests to follow.

In an April 1962 memorandum for the Secretary of the Army, Secretary of Defense Robert S. McNamara outlined his tacit support of helicopters, noting “It appears to me that air vehicles, operating in the environment of the ground soldier but freed from the restrictions imposed by the earth’s surface, may offer the opportunity to acquire quantum increases in mobility, provided technology, doctrine, and organization potentials are fully exploited.” In other correspondence he argued that the success of tests “already made by the Army of airmobile divisions and their subordinate airmobile units . . . indicate the type of doctrinal concepts which could be evolved . . . .” The Kennedy administration’s support encouraged atypical perspectives on future warfare. In the secretary’s opinion, he believed “that the Army’s re-examination of its aviation

49 Olinger, “Conceptual Underpinnings of The Air Assault Concept: The Hogaboom, Rogers and Howze Boards,” 5; Tolson, Airmobility, 8-10; Cheng, Air Mobility, 93, 94, 137, 38, 181, 206, 207. For information about the purpose and deliberations of the Rogers Board from a board member, see Lieutenant Colonel John W. Oswalt, “Report on the ‘Rogers’ Board,” USAAD, Vol. 7, No. 2 (February 1961), 15-17.

50 Olinger, “Conceptual Underpinnings of the Air Assault Concept,” 5.

51 Robert S. McNamara, “Memorandum for the Secretary of the Army,” 19 April 1962, Box 1, Folder 28, Hamilton H. Howze Papers, USAMHI.

52 Robert S. McNamara memorandum for Secretary of the Army Stahr, April 19, 1962 contained in Jacob A. Stockfisch, The 1962 Howze Board and Army Combat Developments (Santa Monica, California: RAND, 1994), 42.
requirements should be a bold ‘new look’ at land warfare mobility. It should be conducted in an atmosphere divorced from traditional viewpoints and past policies.”

McNamara’s encouragement came with a warning, as he cautioned he would “be disappointed if the Army’s re-examination merely produces logistic-oriented recommendations to procure more of the same, rather than a plan for implementing fresh and perhaps unorthodox concepts which will give us a significant increase in mobility.”

It was a license for Army Aviation to adopt the recommendations of its most ardent defenders of helicopters, while also a heavy burden – there would be only four months to gather personnel, devise and execute tests, and write a detailed report. Quickly, the Army formed a group to conduct the tests of airmobility, headed by Major General Hamilton H. Howze, the man hand-chosen by McNamara.

The resultant committee, the Howze Board, was perhaps the single most important development of the 1960s in regards to establishing and suggesting the formation and operation of airmobile units. Howze took over as the chair, charged with

53 McNamara, “Memorandum for the Secretary of the Army,” 41.

54 Stockfisch, The 1962 Howze Board and Army Combat Developments, 42. McNamara’s seeming intense championship of Army Aviation was actually the product of two Army Aviators in the Pentagon: Colonel Robert R. Williams and Colonel Edwin Powell, both members of the secretary’s staff who had his ear. The memoranda were likely drafted by the pair. Despite this oblique support of Army Aviation, the directives came with the weight of the Secretary’s office, ushering along the developments. Hamilton H. Howze, A Cavalryman’s Story: Memoirs of a Twentieth-Century Army General (Washington: Smithsonian Institution Press, 1996), 236; Dr. James W. Williams, A History of Army Aviation: From its Beginnings to the War on Terror (Lincoln, NE: iUniverse, Inc., 2005), 99; Bergerson, The Army Gets an Air Force, 110, 111.

55 Howze, A Cavalryman’s Story, 237.

56 The Board took its namesake from the individual who was tasked with leading it, the first Director of Army Aviation, Major General Hamilton H. Howze. The official name of the committee was the U.S. Army Tactical Mobility Requirements Board. He was an obvious choice, and had long been considered by many as one of the most visionary aviators. Howze had raised his profile in the Pentagon in 1957 by presenting a briefing of a proposed air cavalry brigade in a fictional assault across Germany “to any and all my superiors who would listen.” Howze, A Cavalryman’s Story, 233.

testing the organizational and operational concepts of airmobility. Thirteen generals, a
dhandful of civilian researchers, and thirty staff officers fell under his direct command.
Divided into seven separate working committees, each studied either reconnaissance,
security, and target acquisition, tactical mobility, fire power, logistics operations and
logistics support, operations research, and field testing.\textsuperscript{58} The Board wrote to active and
retired officers, sending over 400 letters inquiring about their level of interest and
suggestions for airmobility. The majority of the responses indicated a marked level of
support for the concept, and the massive amount of correspondence served as an
unofficial library of suggestions and ideas.\textsuperscript{59}

Howze submitted the final report to McNamara in August 1962, which concluded
that full adoption of the concept seemed prudent.\textsuperscript{60} In the Board’s estimation airmobility
was both “necessary and desirable” – an inevitable evolution no different than the
replacement of animal mobility by motor.\textsuperscript{61} Though the American commitment in
Southeast Asia was increasing, the central focus of airmobility was not solely on its
application in Vietnam. The final report outlined four potential enemy forces against
which a proposed airmobile division could possibly fight and should thus be evaluated
for such eventualities: “a modern enemy army (Warsaw Pact), an oriental army (Chinese
Communist), an insurgency (Viet Cong) and other threats (Latin America, Africa,

\textsuperscript{58} John R. Galvin, \textit{Air Assault: The Development of Airmobile Warfare} (New York: Hawthorn Books,
1969), 276; Stockfisch, \textit{The 1962 Howze Board and Army Combat Developments}, 15; Barbara A. Sorrill
and Constance J. Suwalsky, \textit{The Origins, Deliberations, and Recommendations of the U.S. Army Tactical
Mobility Requirements Board (Howze Board)} (Fort Leavenworth, Kansas: U.S. Army Combat

\textsuperscript{59} Howze, \textit{A Cavalryman’s Story}, 240.

\textsuperscript{60} Stockfisch, \textit{The 1962 Howze Board and Army Combat Developments}, 22.

\textsuperscript{61} Tolson, \textit{Airmobility}, 23.
etc.). These were still mostly theoretical distinctions, though. The Board provided the framework for an airmobile division, but McNamara demanded further testing to develop air assault techniques. For that, it required a special unit.

**The 11th Air Assault Division and the 10th Air Transport Brigade**

The formation of the 11th Air Assault Division (Test) at Fort Benning, Georgia might be the most significant recommendation of the Board – it certainly had the most far-reaching consequences. Activated 15 February 1963 from the 11th Airborne Division, its commander, Brigadier General Harry W.O. Kinnard, received orders to “determine how far and how fast the Army can go, and should go, in embracing airmobility.” More to the point, the 11th’s purpose was “to develop the details of doctrine, tactics and technique for its employment . . . [and] the chore of proving or disproving or modifying the organization prescribed by the [Howze] Board.” Kinnard immediately allowed a free exchange of ideas, permitting his subordinate commanders to voice their opinions on tactical and operational theories and proposed developments.

Unique to the test division was the “Idea Center,” where “any man, enlisted or officer,

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63 Oftentimes overlooked in the historical record, the Army activated the 10th Air Transport Brigade alongside the 11th AAD. Per the Howze Board recommendations, Project TEAM (Test and Evaluation of Air Mobility) oversaw the simultaneous testing of three new airmobile units: an air assault division (11th AAD), an air cavalry combat brigade, and an air transport brigade (the 10th ATB). The 10th supported the 11th with fixed and rotary wing aircraft.


As a Lieutenant Colonel in the 101st Airborne Division during World War II, Kinnard is credited with suggesting the legendary “Nuts!” response to the German demands of surrender at Bastogne.

could come in with an idea and where that idea would receive full evaluation." The spirit of the 11th Air Assault Division (11th AAD) was professional and the Idea Center illustrated their singularity of purpose: to push the limits of helicopters and how the Army used them.

As if those participating in the tests were not already aware of the impact their labors might have on the future of helicopter warfare, Colonel George P. “Phip” Seneff, Jr., commander of the 11th AAD’s 11th Aviation Group, attempted to make it apparent. Within weeks of the unit’s formation Seneff wrote his men. “You all have excellent backgrounds for your jobs,” he assured them, “and you are chosen people. If you didn’t have the backgrounds in the first place, you wouldn’t be here….“ In Seneff’s estimation, membership in the 11th came with a large degree of responsibility, as “the future of Army Aviation, and I think, a large part of the Army hangs on the outcome of our efforts.” Their endeavors went beyond testing, but would act as the main determinant between either progress or a step back. “If we are successful,” Seneff predicted, “the Air Mobile concept will be a dynamic advance for the Army. If we are not, we will go back to flying Piper Cubs, if we have that much left, and the Army and the country as a whole will lose one of the things that . . . can mean the difference between victory and defeat in future land combat.”

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67 Headquarters, 11th Air Assault Aviation Group (T), Fort Benning, Georgia, “Commander’s Notes, Number 1: General Policies and Methods of Operation”, p.1, 6 March 1963, Box 9, Folder 12, George P. Seneff Papers, USAMHI.
68 Ibid.
69 Ibid., 2.
That is not to say everyone believed air assault was inevitable or that it was only a matter of time before its full implementation. Army Chief of Staff General Earle G. Wheeler stated in 1963 that “we expect the 11th Air Assault test program . . . to be a fair, unbiased, thoroughly professional examination of concepts, organization, and equipment that appear to offer very great promise for increasing our Army’s combat effectiveness.”

Kinnard asserted that he did not approach the testing believing that airmobility would fulfill a preordained outcome. His job as the 11th AAD’s commander was not to “write success or failure on the 11th as it was given to me,” but instead to “nurture and develop it – to come up with the best improvement on the Howze Board that we could, given the resources and the time available.”

In later reflection, Lieutenant General Robert E. Coffin, the Chief of Staff of the Air Assault testing, argued the tests were objective and not all participants were certain airmobility would succeed. Instead, they approached their tasks convinced that “air assault was going to have to prove itself,” rather than merely confirming a supposed certainty.

Much of the doctrine with which the division experimented was directly related to what aviators in Southeast Asia were learning on a daily basis: flying in formation, aerial and artillery support in the multiple phases of air assaults, as well as the efficient movement of men and supplies throughout the battlefield areas. By October 1962 the Army had produced the first document to examine operational experiences of aviation units in Vietnam, distributing it widely for commanders and staff officers to allow for

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71 Kinnard Interview, Senior Officers Oral History Program, USAMHI, 81.
doctrinal progression. That connection with the combat theater continued as the 11th maintained contact with units already in-country, and from across an ocean communicated between them many of their respective procedures and techniques. Helping this flow of ideas were pilots who returned from tours in Vietnam and arrived at Fort Benning to relate their experiences.

The 11th spent the remainder of 1963 and into 1964 testing new equipment, experimenting with maneuvers and organizations, executing simulated operations, and all the while slowly gaining aircraft and personnel. The culminating field exercise was the October 1964 Air Assault II, which ranged across four million acres in North and South Carolina. The 82nd Airborne, augmented by two mechanized battalions of the 2nd Infantry Division, acted as the opposing force, simulating both guerrilla and conventional forces. The 11th’s command of the battlefield impressed most, as their increased mobility freed them of the usual hampering effects of rough terrain. At the close of testing the neutral test director, Fort Benning’s Post Commander, Lieutenant General C.W.G. Rich, submitted his glowing recommendation to Army Chief of Staff General Harold K. Johnson, claiming that an air assault division constituted “the most versatile forces that we can add to the United States Army.” Despite the mostly positive recommendations of those involved with the tests, McNamara did not immediately approve the activation of

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74 Combat Studies Institute, *Sixty Years of Reorganizing for Combat*, 30.
75 Carland, “How We Got There,” 12.
77 As quoted in Carland, “How We Got There,” 13. Rich also recommended that the units remain together for more training, thinking additional testing was unnecessary. Merle Thomas Cole, “11th Air Assault Division: Test Bed of the Airmobile Concept” (1977), USAMHI Library, 14.
an airmobile division. The worsening situation in Vietnam, however, acted as a substantial catalyst.

As historian John Carland notes, the ARVN’s quickly eroding ability to contain the insurgency provided an impetus for the Department of Defense to accept an airmobile division in the Army’s organization structure. By early 1965 the Army had to decide which unit would operate in northern RVN with its rugged terrain and the important provincial capital of Pleiku. Reliance on ordinary infantry units seemed dubious given their time-intensive movements and general over-dependence on vehicles. Following such rigorous testing, and eager to prove themselves in battle, the 11th Air Assault Division seemed a suitable fit. After a dedicated effort to determine how effective the new concept could be, those associated with the tests were anxious to implement it, impatient to “flex its muscles . . . eager to show off airmobility and make officials wonder how they ever got along without it.”

Despite favorable recommendations to implement the airmobile division, Kinnard was apprehensive that their efforts in the 11th AAD were for naught. He noted that “It was my overall impression [the airmobile division] was hanging by a thread, and I was very worried about it.” It was Vietnam, though, in Kinnard’s later reflections, which convinced the command structure to implement an airmobile division. “I think it was a very tight time,” he mentioned, and “I would have to speculate that if there had been no decision to send a division to Vietnam – an Army division—that we probably would have

81 As quoted in Carland, “How We Got There,” 14.
been broken up and probably there would not have been an airmobile or an air assault division.” Kinnard’s speculations are likely correct. Throughout the testing phase the United States inched closer to outright war, and that eventuality helped keep the air assault division alive.

The Tonkin Gulf incident in early August 1964 involving two U.S. destroyers, the Maddox and Turner Joy, provided President Lyndon Johnson with a growing conviction that the situation demanded an enhanced American military presence. From late 1964 into mid-1965 American troops in Vietnam grew from fifty thousand to ninety thousand. Meanwhile, the moribund RVN government struggled against the communist insurgency. Into this climate of growing uncertainty and continued instability the airmobility concept evolved from a testable theory to reality. Southeast Asia was soon to be its proving ground, as the Central Highlands and the provincial capitals of Kontum and Pleiku continued to be a high profile target for the Viet Cong. Secretary McNamara accepted the proposal to create an airmobile division on 19 April 1965. It took until 15 June, though, before he formally approved the decision to activate the 11th, reflagging the unit as the 1st Cavalry Division (Airmobile). President Johnson announced in July that he was sending...
one hundred thousand more U.S. troops to South Vietnam, specifically naming the 1st Cav as the first to deploy – Vietnam had birthed the airmobile division.

In order to fill the ranks, pilots from all over the Army received orders to Fort Benning. The new unit had only eight weeks to become combat-ready. Recently arrived aviators received training from 11th AAD veterans to impart upon them the new tactical concepts and procedures the testing unit had devised. Fresh from the Army’s rotary-wing aviation school, Robert Mason experienced the capabilities of 11th AAD’s pilots. Compared to his training during flight school where “our formations could be defined as two or more helicopters flying within sight of each other in the same sky” the close formations employed by the “old salts” demanded far more aptitude. To squeeze a flight of Hueys into small landing zones “required that they fly, land, and take off very close together.”

To be sure, most of the former members of the 11th maintained an extreme level of proficiency, exemplifying their status as fearless wild men. Their flying fit the model, too, as Mason asserts, “These guys were cowboys.”

Despite attempts to acclimate new pilots to the distinct methods of flying, there would not be enough time to fully prepare. As Mason notes, “I saw these techniques – the low-level, the close formations – performed much more often than I did them. We had very little time. The new pilots would be getting their Huey experience and air-assault

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85 Indeed, one of the 1st Cavalry’s first major problems was its critical shortage of qualified pilots. Slated to have between 950 to 995 aviators, about thirty percent of those numbers had to come from outside the 2nd Infantry and 11th AAD. “1st Cav Div (Airmobile),” 49.

86 Ibid.


88 Ibid.
training on the job in Vietnam.” Indeed, veteran of the 11th Air Assault Division or not, most all were equally inexperienced in the real application of airmobility in a theater of war, though that day fast approached. Kinnard left for Southeast Asia on 16 August to meet with the overall commander of the American effort there, General William C. Westmoreland of the Military Assistance Command, Vietnam (MACV). How the 1st Cavalry would fare in combat, however, remained to be seen.

The Guns of November: The Pleiku Campaign and Airmobility

The first group to represent the 1st Cavalry, the Advance Liaison Detachment, left the continental U.S. on 2 August 1965. Illustrating the intimate relation between aviation and the airmobile unit, twenty eight of the “key officers and men” were pilots. The majority were executive officers ordered to liaise with aviation units already in Vietnam, learning aspects of operating in the unique terrain and weather conditions they would encounter in their area of operations. Upon meeting with the initial group two miles north of the village of An Khe, thirty six miles inland, they began construction of the 1st Cavalry’s new home, effectively in the middle of Viet Cong-controlled territory.

The 1st Cavalry Division’s arrival in Vietnam marks the second phase of airmobile operations in Southeast Asia. With more assets and a dedicated division of soldiers trained for the new type of combat, it did not take long for the Americans to baptize in fire their refined concept. North Vietnamese forces attacked the small, triangular-shaped Special Forces compound at Plei Me near the Cambodian border on 19

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89 Ibid.
90 Stanton, The 1st Cav in Vietnam, 39.
91 1st Cav Interim Report of Operations, July 1, 1965-December 31, 1966, 3; Kinnard Interview, Senior Officers Oral History Program, USAMHI, 94.
92 Ibid.; Stanton, The 1st Cav in Vietnam, 40; Mason, Chickenhawk, 64.
October, signaling phase one of the larger Pleiku Campaign/Operation Silver Bayonet. An assault on such a remote outpost was not a peculiar incident for the period. It differed from other attacks not only because of the noticeable ferocity with which they struck, but the fact it was so well planned and executed. Indeed, the attackers were not the customary local Viet Cong soldiers – farmers by day and militia by night – but a regiment of well-prepared and equipped North Vietnamese Army (NVA) regulars hoping to lure and ambush any relief element.93


94 Map by author.
The fierceness of the assault worried Westmoreland. It appeared the NVA would strike other important locations, like the provincial capital of Pleiku City. Worse yet, they might cut South Vietnam in two.\(^{95}\) It soon became evident that Plei Me was the start of a concerted enemy effort to gain control of the whole Central Highlands.\(^{96}\) When Westmoreland arrived on 26 September the situation remained worrisome. Intelligence suggested a portion of the NVA forces were regrouping west of Plei Me in a 2,500 square kilometer region of rolling terrain punctuated by elephant grass and wooded areas.\(^{97}\) Airmobile units appeared best suited to engage the enemy in the largely road-less area, especially against such a conventionally equipped and trained main force opponent.

Westmoreland’s orders were simple: “Find, fix and destroy the enemy forces threatening Plei Me, Pleiku, and the Central Highlands.”\(^{98}\)

**Sturm and Ia Drang**

American forces caught up with the North Vietnamese in the Ia Drang Valley, approximately six miles from the Cambodian border.\(^{99}\) In the shadow of the Chu Pong massif, 11\(^{th}\) Air Assault veteran Colonel Harold G. Moore and his 1\(^{st}\) Battalion, 7\(^{th}\) Cavalry Regiment (1/7), 1\(^{st}\) Cavalry Division, air assaulted, setting the stage for the first large-scale meeting of U.S. and NVA forces. Earlier in the day of 14 November, Moore executed a reconnaissance flight to locate prospective landing zones. Employing tactical


\(^{96}\) This idea was key to the American’s dedicated defense of Plei Me, Pleiku, and the surrounding areas. As the eventual Operations Report mentions, “To control PLEIKU is to control the highlands.” Operations Report: Lessons Learned, Report 3-66 – The PLEIKU Campaign, 10 May 1966, 213. Hereafter cited as OR-LL – Pleiku Campaign.


deception, he was careful to not directly overfly the area, lest they telegraph American intentions to any enemy observing from below – a technique which became standard throughout most of Vietnam. Instead, Moore had his flight of two lift ships and their two escorting gunships fly a straight line towards Duc Co Special Forces camp, well southeast of the Chu Pong and at an altitude of 4,500 feet. After reviewing three possible landing zones, Moore and his subordinates agreed upon one, code-named Landing Zone (LZ) X-Ray.101

As the sixteen Hueys of the 229th Assault Helicopter Battalion (AHB) formed up and prepared to insert the first lift into X-Ray they exercised the tactics of a typical combat assault as dictated by the Army’s previous experience in Vietnam and the 11th Air Assault’s testing. Moore arranged for preparatory artillery fires on the landing zone to begin twenty minutes before their scheduled arrival.102 The flight maintained an altitude of 2,000 feet to stay outside the effective range of small arms fire, as they were crossing almost fifteen miles of countryside controlled entirely by the enemy. The 14.3 miles between where the rest of the battalion staged at Plei Me for insertion into the Ia Drang meant a lengthy round-trip and multiple lifts.


101 1st Battalion, 7th Cavalry, 1st Cavalry Division (Airmobile). “After-Action Report, Ia Drang Valley Operation 1st Battalion, 7th Cavalry 14-16 November 1965, 9 December 1965.” pp. 2, 3, Folder 01, Box 01, Operation Masher/Operation White Wing Collection, The Vietnam Archive, Texas Tech University; Moore & Galloway, We Were Soldiers Once, 64, 65; John A. Cash, John Albright, and Allan W. Sandstrum, Seven Firefights in Vietnam (Washington, D.C.: United States Army Center of Military History, 1989), 7, 8; Stanton, The 1st Cav in Vietnam, 55; Coleman, Pleiku, 188; Tolson, Airmobility, 75, 76.

The first three flights of “slicks” landed in LZ X-Ray, attaining surprise, but as the third lift departed the enemy began to pour down the Chu Pong and attack the landing zone. Stiff resistance meant the 229th’s pilots could not deliver all of the unit’s remaining troops. Facing a difficult situation and dwindling supplies, without the helicopter support it is doubtful the besieged 1st Battalion could have fought on, as they found themselves immediately surrounded by an opposing force many times their size, equaling at least a regiment. Understanding the importance of the landing zone, Colonel Moore directed his troopers to protect it at all costs. “That football-field-size clearing,” Moore later wrote, “was our lifeline and our supply line. If the enemy closed the way to the helicopters all of us would die in this place.” Throughout the engagement the 229th flew crucial medical evacuation and resupply missions into X-Ray, “in most cases at grave risk to pilots and crew.” By 16 November, two days after fighting began, Hal Moore’s battalion received orders to withdraw from the area while elements of the 2nd Battalion, 7th Cavalry and 2nd Battalion, 5th Cavalry would take over.

103 OR-LL – Pleiku Campaign, 142. A “slick” was a widely-used term by military personnel describing a lift-helicopter, distinct from a gunship. A UH-1B-, D-, or H-model, the nickname derives from its sleek appearance. While Huey gunships carried visible out-board weaponry, the slick was bereft of armaments other than two 7.62mm machine guns mounted in each cargo door, thus appearing barer and more streamlined.

104 Coleman, Pleiku, 229.

105 Moore & Galloway, We Were Soldiers Once, 74.

106 OR-LL – Pleiku Campaign, 152; 1st Cavalry Division, The 1st Air Cavalry Division, 151, 152.

107 Although the battle was over for the 1st Battalion, it had only begun for the 2nd of the 7th Cavalry and the 2nd of the 5th who experienced their own hellish engagement at nearby LZ Albany. Ordered to sweep from X-Ray to Albany, they ran into regrouped elements of NVA who executed a costly ambush on the battalions. Though important in its own right, it is peripheral to this study. See Larry Gwin, Baptism: A Vietnam Memoir (New York: Ivy Books, 1999); Coleman, Pleiku, 229-249.
The assault helicopter pilots did not necessarily exhibit any groundbreaking
tactics unique to the Ia Drang Valley battle; they merely exercised the techniques
practiced and drilled repeatedly during the testing phase and subsequent training periods
in the continental U.S.\textsuperscript{108} What is significant, though, is that for the first time they
supported American soldiers from start to finish against main-force North Vietnamese
regulars in what was the largest and bloodiest engagement of the war to date. The 1\textsuperscript{st}
Cavalry took full advantage of their aviation assets. UH-1s carried them into battle, CH-47s relocated supporting artillery batteries numerous times, scout helicopters acted as the
eyes of the larger unit, command and control ships (C&C) coordinated the battle from the
air, while gunship and aerial rocket artillery (ARA) helicopters offered close air
support.\textsuperscript{109}

The battle was a victory, but not a resounding one for the Americans in a
conventional sense. Certainly their ground troops could claim success in that they
pursued their enemy, won the battlefield and forced a heavy toll in men and equipment,
but the cost in American lives was nonetheless shocking.\textsuperscript{110} For the most part, though, the
Americans were victorious – the 1\textsuperscript{st} Cavalry’s intention was to find, fix, and destroy the

\textsuperscript{108} In the operations report, though, there are many ideas for future assaults: troops should off-load on high
ground when feasible; Pathfinders (infantry trained to guide flights into the landing zone) should ride in
initial lifts to control the LZ and provide navigational assistance; pilots should fly at low-level when
weather allowed to avoid restricting support fires overhead and to achieve maximum surprise; when aircraft
from other units pooled for an operation there should be a mass lift, then allow units to revert to their
original responsibilities. Overall, though, the basic tactics used during Ia Drang were standard procedure
for the 1\textsuperscript{st} Cavalry. OR-LL –Pleiku Campaign, 224.

\textsuperscript{109} Outfitted with powerful radio equipment, C&C ships coordinated the varied assets during operations. In
the case of Moore’s 1\textsuperscript{st} Battalion, “From 2,500 feet overhead [the C&C ship] would have radio contact with
3\textsuperscript{rd} Brigade Headquarters, with the battalion rear command post at Plei Me, and with all the company
pickup zones. [They] could monitor all that was said over the battalion command network” while also
directing artillery, ARA, Air Force fire support, and organic helicopters. Moore & Galloway, We Were
Soldiers Once, 47.

\textsuperscript{110} 1\textsuperscript{st} Cavalry casualties totaled 300 killed in action, 524 wounded, and four missing in action. OR-LL –
Pleiku Campaign, 217.
enemy, not gain and hold terrain. While success in the Ia Drang can be measured in a comparative body count and the fact the enemy retreated back across the border into Cambodia, the ultimate gauge of triumph for most in the Army was how the 1st Cavalry transformed the theoretical into conceptual reality. Strategically, the larger Pleiku Campaign upset NVA aims in the Central Highlands.

In a larger sense, though, it proved the effectiveness of large-scale airmobile efforts and the invaluable mobility of helicopters. Plei Me and the resultant battle at Ia Drang were what the operations report termed “airmobility’s acid test,” which revealed “whether three years of planning and testing would bear the fruits of victory – for a concept and a division.” To Westmoreland, the substantiation of heli-borne warfare was notable in the absence of battlefield errors which had accompanied other first-actions in the American military record. He admitted that although a single U.S. casualty was lamentable, he “could take comfort in the fact that in the Highlands . . . the American fighting man and his commanders had performed without the setbacks that have sometimes marked first performance in other wars.” Indeed, Ia Drang avoided the devastating initial engagement stumble of the Kasserine Pass or Pusan Perimeter. For those expecting a promising debut for American troops in South Vietnam, the Pleiku Campaign seemed to offer it.

Perhaps the professionalism which the 1st Cavalry’s helicopter battalions exhibited during their first large combat action is not surprising. The pilots did not arrive in Vietnam completely unprepared. Rigorous stateside training by the 11th Air Assault had at least prepared most with an in-depth knowledge of the mechanics of air assaults.

111 OR-LL – Pleiku Campaign, 42.
112 Westmoreland, A Soldier Reports, 157, 58.
Chief Warrant Officer Leland C. Komich credits his time in the 11th with helping him cope with the initial shock of combat. “The training carried over to Vietnam very nicely,” he remembered. “The first time I was in a ‘hot’ landing zone, I heard everybody shooting but thought, ‘Jeez, that’s the same sound you get in training with blanks.’”\textsuperscript{113} In his after-action report, Colonel Moore professed his opinion of Army aviators during Ia Drang and maintained he had “the highest admiration, praise and respect for the outstanding professionalism and courage of the UH-1D pilots and crews who ran a gauntlet of enemy fire time after time to help us. They never refused to come in; they followed instructions beautifully; they were great.”\textsuperscript{114} Indeed, the tactics and procedures learned earlier in the war and refined during the tests in the American south had prepared the pilots and commanders well.

Secretary of Defense McNamara visited the 1st Cavalry at An Khe soon after the completion of the campaign and stated that the effort was an “unparalleled achievement,” and promised that there would be “more air cavalry divisions.”\textsuperscript{115} It was a statement intended to praise the 1st Cavalry for an impressive first engagement, perhaps indicative of the relief he felt in that the concept actually worked, but his approbation did not reflect the eventuality.\textsuperscript{116} Westmoreland also expressed relief at the engagement’s outcome, reporting that he had reservations about sending the unproven 1st Cavalry into

\textsuperscript{115} As quoted in OR-LL – Pleiku Campaign, 215.
\textsuperscript{116} The 1st Cavalry Division proved to be the first of only two airmobile divisions in the U.S. Army. The 101st Airborne became Airmobile in August 1968, reflagged at Fort Campbell, Kentucky as the 101st Airborne Division (Air Assault) in 1974. The 1st Cavalry reorganized in 1975 as a heavy armored division.
“inhospitable terrain” and did so “not without considerable anguish” – failure “in our first big test” would surely “have sharp repercussions on our self-confidence and morale and on the American people.”

For individuals so invested in airmobility’s success, the results of the Pleiku Campaign and Ia Drang mollified anxieties. The collective vision of a more mobile force was not a dangerous gamble after all, but an effective reality.

**Conclusion**

Over the course of a quick fifteen years, Army combat helicopter units evolved from a small contingent into a formidable force. With the foresight of a handful of visionaries, helicopters became not only the prime mover of U.S. men and material throughout Southeast Asia, but an invaluable component of an entire strategy. Though explicitly intended for a European battlefield, wartime necessities meant airmobility would find its true test in very different terrain against a very different enemy. Despite there being some indication, especially in the early 1960s, that the United States might soon face the challenge of brush-fire wars throughout the world, it did not necessarily alter the Army’s overall approach. Airmobility was not designed for Vietnam specifically, but for a worldwide structure which stressed employment in Europe as the most likely battlefield. So long as they provided mobility to their ground units, the Army believed, they could meet any contingency in the world with a single organizational structure.

Since Vietnam seemed to require enhanced mobility it made sense helicopters met their first tests in late 1961. For the Army, combating an insurgency with a new doctrine

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meant that, as historian Christopher Cheng posits, “battlefield needs ultimately affected the direction of air mobility development.” If not for the initial years when under-supported units flying antiquated aircraft yielded impressive results, it is hard to imagine Vietnam earning the eventual moniker of “the helicopter war.” Recognition of just how much combat the first units witnessed is not sufficiently appreciated in the historical record. U.S. attempts to insist their presence was limited to advising has, perhaps, caused an illusion that Army forces gained little knowledge of combat operations during those formative years. To claim that it was simply an advisory effort with little actual contact is to undervalue the era – even at the early stage it was a hot war, to be sure.

Despite their experiences, though, airmobility was not set in stone. The Howze Board and the stateside tests throughout 1963 and 1964 by the 11th Air Assault Division are often identified by scholars as the largest arbiter of airmobile tactics during the 1960s. Though those actions certainly built the framework for how assault helicopters would be utilized by the Army in Vietnam, they existed in the theoretical, untested in actual combat. In the words of George Seneff, “It was an exciting time, the 11th brought things a long way. Vietnam brought them a lot further.” The 1st Cavalry Division proved the concept was valid, but units still had much to learn about the employment of helicopters.

Following victory in the Ia Drang, the tactical realities of some units changed. The mission of the 1st Cavalry and helicopter units as a whole went from one of reinforcement and reaction to one which permitted an almost endless and unlimited

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offensive. In the next few years American ground commanders utilized this capability, depending on it to support a burgeoning strategy of attrition. Battlefield successes signified maturation of the air assault concept and for most erased the belief the helicopter’s role lay mainly with the movement of equipment. Indeed, the concept was proven effectual and worth further refinement. Pleiku may have been airmobility’s first test in large-scale combat, but it was far from the last. Throughout the remainder of Vietnam, the Army continued to refine what Pleiku initially taught them: that the concept was sound but far from infallible. Tactical revelations might have lauded the Pleiku Campaign/Operation Silver Bayonet as the guarantor of helicopter assaults’ battlefield primacy, but the Army’s desire to refine the concept assured it was only the beginning.

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CHAPTER TWO: INNOVATION THROUGH COMBAT EXPERIENCE

Throughout the remainder of the American involvement in Southeast Asia, multiple factors affected how the Army refined their helicopter techniques and procedures. There were four which noticeably influenced these doctrinal developments. First was the character of the Vietnam War itself. Despite previous testing which emphasized operating in a European conflict, the Army adapted helicopters as a counterinsurgency tool. That shift required alterations in procedures, tactics, training, and organization. Second, their employment on such a large scale required the Army to come to terms with such prevalent usage. Both the aviation and infantry communities learned to interact with one another, and helicopter crews discovered they had to “educate” some among the ground forces about aircraft, crew, or mission limitations. The third factor was that the Army discovered that standardization of tactics and techniques across all of South Vietnam was, although desirable on an organizational level, ultimately not feasible. Geography, mission, and standard procedures among the supported ground units dictated much of their techniques and methods. Finally, the enemy’s ability to revise their own methods required commensurate responses from assault helicopter units. Overall, between 1966 and 1971 assault helicopters continued a vibrant era of innovation in tactics, procedures, and mission.

1966: Coming of Age

One of the most significant factors to affect Army Aviation doctrine after 1965 was the character of the war. The U.S. military’s overall strategy of attrition largely
dictated how helicopter units operated. Additionally, the Americans struggled to counter their opposition’s reworked strategy, which was in part a direct response to the enhanced mobility of U.S. helicopters. Army Aviation faced the reality that in order to remain a viable resource they had to provide their assets in whatever way complemented the infantry. This was certainly apparent in the aftermath of the Pleiku Campaign. As U.S. and Communist forces solidified their strategies, the helicopter remained influential for both. Indeed, if Ia Drang provided the Army comfort in validating airmobility, it had an equally viable impact for the North Vietnamese Army.

Use of main force units signified an altered strategy for the NVA, as they moved from guerilla operations into a conventional military unit configuration.\(^\text{123}\) Ia Drang indicated to the North Vietnamese the structure of American operations. Infantry Colonel David H. Hackworth concludes well that as a result, “the North Vietnamese learned how to fight us. And looked at in this way, even if the battle was an unprecedented victory for the Americans in our war of attrition, it was an equally unprecedented victory for our enemy in their protracted guerrilla war.”\(^\text{124}\) 1966 was a transition year for both belligerents. As the Communists learned American strengths, U.S. forces took steps towards an offensive, building up the requisite amount of men and equipment to fight the aggressive war which General William Westmoreland envisioned. In his words it became a year of “progressively developing our ability to fight an elusive enemy….a year of

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learning: old tactics had to be modified, new tactics and techniques explored. We had to learn the enemy’s tactics and how to deal with them….”

While the enemy still maintained their large conventional forces, they were careful to operate mostly in the safety of border areas, notable for their remoteness, and along the demilitarized zone (DMZ) or heavily forested and jungled regions. Westmoreland noted that throughout 1966 the NVA remained in isolated environs, unable to “bring their weight to bear in the populated areas”; a belief he substantiated with the fact that “no main force unit . . . entered the populated area around Saigon” for over fifteen months.” Realizing that open battle on anything but their own terms would lead to unsustainable casualties, communist forces remained elusive. By allowing their regular units to operate in the hinterland of Vietnam’s western border, they hoped it would draw the Americans out of the peopled areas, permitting the insurgency to make gains in the more populated coastal regions.

Frustrated by an increasingly evasive foe, the Army sought to engage them using the mobility of helicopters. Much like the Pleiku Campaign, a substantial impediment to American operations was rough terrain, mostly impassable using wheeled vehicles. Overcoming these difficulties required troop-carrying helicopters. Apparent success in late-1965 convinced the MACV staff in 1966 they now faced a weakened foe, and by conventional thinking it constituted the perfect time to capitalize on any hesitation the opposition offered.

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125 Ibid., 120.
126 Ibid., 115.
Westmoreland decided that large-scale offensive operations in South Vietnam were the best avenue to victory. It aligned well with his strategy of wearing down the enemy through high casualties. Doing so meant finding the opposition in remote areas of the country, only easily accessible by air. Helicopters, therefore, became an essential vehicle of the American strategy. Of the several strategic choices available, an offensive against North Vietnam proper could potentially bring an end to the war. That would likely conflict with the U.S. policy of containment, though, and some strategists feared it could provoke a possible intervention by Communist Chinese forces. Cross-border thrusts into the sanctuary zones of neutral Laos and Cambodia – areas which the NVA routinely utilized as bases of operations – were equally off-limits. To the politically-minded American planners the best option available was focusing on the war in South Vietnam.\(^\text{128}\)

Augmented by a powerful tactical air capability, artillery, and other machines of war, the helicopter became an indispensable tool during the offensives. From November 1966 through May 1967, Westmoreland planned sustained operations, taking advantage of the dry season which offered preferable flying conditions in the southern regions.\(^\text{129}\) In this theater the helicopter and airmobility “came of age.”\(^\text{130}\) It “balanced the odds” and created “a dramatic new dimension which allowed the precise application of a variety of combat power.”\(^\text{131}\) For the Army, increased reliance on the helicopter was a direct response to the opposition’s own strategy. The true insurgency still existed, but it was in


fact taking secondary importance behind a growing desire for conventional warfare among North Vietnam’s influential commanders. Ultimately, either side committed to a strategy of attrition. The North hoped to break American will on the battlefield through unacceptably high casualties, while the U.S. expected to use their firepower to convince the insurgents their efforts were futile.\footnote{Ibid., 3, 4.}

**Counterinsurgency?**

Despite any changes in how the enemy operated, the Army continued to classify what they faced quite broadly as an insurgency. Debates continue among the military history community as to whether or not the U.S. attempt to fight a counterinsurgency with superior technology was folly; if they erroneously missed the opportunity to win Vietnamese hearts and minds by becoming slaves to high-tech components and conventional tactics. Observers such as Andrew Krepinevich assert that the Army essentially abandoned counterinsurgency in favor of their central strategy of attrition which relied upon impressive body count numbers and dazzling statistics.\footnote{Andrew F. Krepinevich, Jr. *The Army and Vietnam* (Baltimore: The Johns Hopkins University Press, 1988), 168-71.} Historian John Nagl also posits that “the U.S. Army’s concept of how to fight and win [through superior firepower] precluded the development of a successful counterinsurgency doctrine in South Vietnam.”\footnote{John A. Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya to Vietnam* (Chicago: The University of Chicago Press, 2005), 176.} Others argue that the Army set in concrete such a strategy before whole-sale American involvement in Southeast Asia began – airmobility planning superseded counterinsurgency in the early 1960s Army because many believed an increased reliance on helicopters obviated the need for true counterinsurgency doctrine.
Still, infantry proponents of airmobility claimed that helicopters gave them the advantage of superior flexibility and speed necessary to outmaneuver and destroy guerrilla forces. The aversion that some infantry officers felt towards counterinsurgency likely had more to do with personal ambition – airmobility’s command structure was better suited for promotions, appealing to the career-minded. Concurrently, most officers believed technological solutions (airmobility) were more alluring than doctrinal adjustments (counterinsurgency). Effectively, the Army “sabotaged” preparations to fight an insurgency as they “sought to mislead deliberately by creating the appearance of accepting the mission of counterinsurgency. It created manuals and training courses for counterinsurgency, and claimed to be highly interested. Thus, in practice, the Army’s commitment was tantamount to a smokescreen.”

Hackworth corroborates this belief by drawing upon his experience in Infantry School at Fort Benning in 1962, alongside soldiers who would likely take commands in Vietnam. “…the counterinsurgency training we were receiving wasn’t counterinsurgency at all,” he argued, “but conventional tactics with increased mobility provided by helicopters, or ‘choppers,’ (As it was explained by one helicopter-enamored commander, with choppers ‘we can bring in fresh troops, hit fast, and in thirty seconds we can clean them out.’)” Not all soldiers allowed themselves to become so captivated by the technological appeal of helicopters. Instead, their solutions relied upon the fundamentals of war: “‘We need new tactics,’ the Special Forces pros pleaded, ‘for a protracted

136 Hackworth and Sherman, About Face, 431.
guerrilla war’…“137 Despite such exhortations, Hackworth noticed little truly changed within the Army, that “however many hours the Career Course devoted to the subject because the Kennedy Administration demanded it, from the Infantry School point of view, it was just a requirement, to be given a good load of lip service but little more. And that was what it got, regardless of what the soldiers and officers truly needed or what the war to come required.”138

Though these comments reflect the attitude three years before pronounced American involvement in Vietnam, much of the Infantry School’s enthusiasm about the helicopter reflected a prevalent assumption throughout the Army during the entire decade – that the aircraft would carry them into future wars, no matter their composition or objectives. Many of Hackworth’s fellow officers in the school at the time would have likely completed tours in Southeast Asia, just as he did. They carried with them the training continually prevalent during the 1960s, instruction which stressed that infantry paired with helicopters offered a formidable combination anywhere in the world in any type of conflict. Taking these inclinations into account, it is not surprising the 1st Cavalry’s initial combat experience presaged how American forces would fight in Vietnam. Ia Drang appeared to provide favorable results and seemed to convince effectively the Army Staff that airmobility worked. Firepower and mobility meant that the debate was over and that helicopters, tactical air support, and artillery replaced the

137 Ibid.
138 Ibid., 432.
traditional means of fighting an insurgency – counterinsurgency had a new

Bernard Fall, the foremost expert on the contemporary Western experience in
Indochina, noticed this change in the U.S. approach to Vietnam.\footnote{Fall is a tragic figure. Born in Austria, raised in France, as a teenager he lost both parents to German anti-Semitic atrocities and joined the WWII French Resistance. A student of the French efforts in Indochina, among his writings he produced two much-referenced works about the subject: \textit{Hell in a Very Small Place} and \textit{Street Without Joy}. On patrol with a U.S. Marine unit in February 1967, Fall died after a patrol member triggered an anti-personnel mine.} With the arrival of
large units, “Two types of warfare died in 1965-66 in Viet-Nam, in both the North and
the South: Counterinsurgency was one of them, and the national war of liberation was the
other. They were both killed by the sheer mass of American firepower thrown into the
off just about any kind of military disaster,” which should have cost them dearly. In
proving his point he used a recent example of blunder-turned-victory when “a helicopter-
borne outfit of the 101\textsuperscript{st} Airborne erroneously put down in the midst of a VC assembly
area a few days ago, the result should, under normal circumstances, have been
unmitigated disaster.”\footnote{Ibid., 297.} Rather, the event proved what he saw as typical American
insulation from the normal fundamentals of war – that technology and enhanced mobility
could rectify any military errors. Army representatives would likely delight in Fall’s
exasperating realization that “Against this slaughter, the teachings of Mao Tse-tung,
superior tactics, popular support for the VC, or conversely, poor motivation among the

Arvins [ARVNs] and patent ineptness among many of their officers, and even the ‘mess in Saigon’ are totally irrelevant.” For the Army, no matter the composition of the war – be it against a Warsaw Pact nation or an insurgency – helicopters and technology factored heavily into their concept of modern warfare. Whether their strategy constituted a true counterinsurgency or not, the Army operated under the belief the helicopter was an essential element of their Vietnam operations.

Ideas of American exceptionalism seemed to convince many among the military elite that their approaches would not likely produce a mirrored outcome of the failed French experience only a decade earlier. The U.S. Army’s seeming dedication to a continued strategy of attrition ensured the helicopter would remain a central component of future operations. In the minds of the military planners of the day, attempts to find, fix, and destroy NVA and VC forces required a heli-mobile army. This was not something those among the aviation community necessarily bemoaned. Though Army Aviation may have seemed “uncertain of its goals” during the 1950s, Vietnam provided a questionless function. An increasing reliance upon the helicopter gave them ample opportunities to revise and refine their combat procedures. By 1965 the 1<sup>st</sup> Cavalry Division might have constituted the largest dedicated airmobile force ever organized to date, but the growing demand for helicopters meant Army Aviation would find their services more in-demand.

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143 Ibid. Many of these statements are echoes of thoughts he offered a year earlier in Ramparts magazine after witnessing the “depersonalized” and “dehumanized” nature of the war. Fall observed in 1965 that “There is in Vietnam a test of wills . . . but above all, there is a test of military technology and techniques and military ideas. One side believes it can win with a combination of guerrilla warfare and political ideology. The other side believes it can win with the massive use of military power.” Vietnam, he feared, was losing the human element, transfiguring into “simply a test bed of weapons and battle techniques.” Bernard B. Fall, “‘This Isn’t Munich, It’s Spain,’” in A Vietnam Primer (San Francisco: Ramparts, 1968), 28-39.

144 Tolson, Airmobility, 8.
How the entire Army came to terms with such a considerable assault helicopter force, though, required continual patience, open-mindedness, and clear lines of communication.

**Meeting the Need: The 1st Aviation Brigade**

The second factor to impact developments in procedures and techniques was the formation of a new aviation brigade. The Vietnam-era army was essentially an airmobile force since the character of the war birthed a growing reliance on helicopters. Though most infantry divisions already had their own helicopter support in the form of an attached aviation battalion, the demands of Vietnam meant those small numbers became inadequate. Large combat assaults and sizeable operations proved that these units were stretched too thin. The Army looked to alleviate the pressure on these battalions while also supplying adequate numbers of helicopters, lest planned operations become impossible due to a lack of aircraft support. Their solution came in the form of aviation groups composed of multiple battalions. When the numbers of these independent groups grew, the Army formed an aviation brigade – the first aviation unit of that size – made out of whole cloth in May 1966.

Officially, the 1st Cavalry was the only airmobile division until the 101st Airborne’s reconfiguration. Indeed, few divisions or subordinate commands were airmobile, but all employed a degree of airmobility despite their lack of official configuration. Helicopter units fell into two categories: organic and non-organic. The 1st Cavalry enjoyed its own “organic” aviation groups, meaning these helicopters belonged directly to the 1st Cav, for their explicit use. Such command relationships were beneficial to an airmobile division so reliant upon helicopters as prime movers of men and equipment. Additionally, having organic air assets also precluded the necessity of
requisitioning helicopters from other commands. Infantry divisions not in an official airmobile configuration had organic helicopter units as well. They utilized their own aviation battalion – along with an air cavalry troop of observation and attack helicopters – while some smaller units came equipped with modest aviation sections to provide general support.

The 1st Aviation Brigade fell under the second category, non-organic aviation – the only such unit in Vietnam. Their existence was based exclusively upon the overwhelming need for aircraft within Southeast Asia. Brigade helicopters supported various infantry units who either did not have their own aircraft or who needed extra help within their area of operation. Not belonging to an infantry command, their sole existence was to assist any ground forces in need of aviation support. With such a large helicopter force in-country, the opportunities to develop and implement new ideas across the entirety of South Vietnam grew exponentially.

Their formation was a ground-breaking moment for not only Army Aviation, but helicopter warfare in general. When U.S. offensive operations became more prevalent the Army faced the dilemma of increasing numbers of ground units who required aviation support. As stretched as these assets already were, the situation was complicated

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145 The 1st Aviation Brigade activated 25 May 1966 and became one of the largest U.S. units during the war. By 1967 their forty-eight aviation companies flew three-fifths of the Army’s aircraft inventory, eventually swelling to 641 fixed-wing, 441 Cobra AH-1G attack helicopters, 311 CH-47 cargo helicopters, 635 OH-6 observation helicopters, and 2,202 UH-1 utility helicopters. Their missions ran the spectrum of airmobility, providing every imaginable application of helicopters on the battlefield. Subordinate commands, though, did not look to them for operational control. Rather, the brigade acted solely as a support structure for tactical operations, dealing with administration, training supervision, and maintenance of professionalism. Shelby L. Stanton, Vietnam Order of Battle (New York: Galahad Books, 1986), 109; CHECO Report – Army Aviation in RVN; Major General G.P. Seneff, Jr., “The 1st Aviation Brigade – A Year in Combat!,” Army Aviation, Vol. 16, No. 6 (June 30, 1967), 19, 20, 24; BG G.P. Seneff Jr., “Talons from the Sky,” USAAD, Vol. 13, No. 6 (June 1967), 26, 27, 63.

146 Tolson, Airmobility, 102.
because of the uncharted aspects of it – the aviation units had little prior experience supporting non-organic divisions and were “not sure of the proper mix.”\textsuperscript{147} A lack of Hueys and pilots necessitated a distribution of one assault helicopter company per brigade – a significantly disproportionate ratio compared to the 1\textsuperscript{st} Cavalry’s support structure.\textsuperscript{148} Prior methods of lending the limited numbers of helicopters to other divisions had become too unwieldy and difficult to manage given the lack of centralized command. The Army ordered Brigadier General George P. “Phip” Seneff, Jr. to form the aviation brigade to solve the problem. As an 11\textsuperscript{th} Air Assault Division veteran, he brought experience and an uncompromising vision of what he believed the airmobile potential to be. The mission was a daunting one: to offer non-organic Army aviation to those in need of it – to “provide tactical mobility for combat troops, supplies, and equipment” – in a timely and effective manner.\textsuperscript{149}

Not only was the 1\textsuperscript{st} responsible for assisting American infantry commands, but ARVN divisions and one Republic of Korea division expected U.S. helicopter assistance as well. They divided assets into different Corps Tactical Zones (CTZ).\textsuperscript{150} Three of the four CTZs had an aviation group which acted as a pool. Ground commands liaised with

\textsuperscript{147} Ibid. Additionally, the burgeoning number of aviation units meeting the need created command issues. From April to December 1965 aviation companies increased from thirteen to forty eight; their aircraft ballooned from 430 to 1600. “In the Field . . .,” \textit{Army Aviation}, Vol. 15, No. 3 (March 31, 1966), 22.

\textsuperscript{148} Ibid. The 1\textsuperscript{st} Cavalry had nearly 300 utility helicopters in its inventory. Specifically, two whole assault helicopter battalions, the 227\textsuperscript{th} and 229\textsuperscript{th} Aviation Battalions (Assault Helicopter), with sixty assault helicopters each. Stanton, \textit{The 1\textsuperscript{st} Cav in Vietnam}, p. 1 of appendix; Headquarters, Department of the Army, “The Airmobile Division” Pamphlet (Washington DC: U.S. Government Printing Office, 1965), 2.

\textsuperscript{149} This quote is a stock description of the duties of assault helicopter units as found on Operational Reports throughout the war. There were variations of this, all reflecting their non-organic aviation support.

\textsuperscript{150} The U.S. military divided Vietnam into four CTZs, designating them I (geographically the northernmost), II, III, and IV (the southernmost).
their corps’ aviation group to request helicopter assets as needed. As a result, ground troops received attached helicopters for a predetermined amount of time, tasked with specific missions. The U.S. 1st, 4th, 9th, 101st, and 25th Infantry Divisions depended upon aviation support from 1st Aviation Brigade units, beyond what their own organic battalions provided. By 1966, the potential offered by attached helicopters signaled a shift in traditional infantry capabilities.

151 CHECO Report – Army Aviation in RVN, xiv.
152 Tolson, Airmobility, 104.
Who knows best?: Ground commanders and utilizing their “assets”

Although they were independent of the infantry, ground commanders used non-organic helicopters as he would any other asset typically assigned to them. This made for a good working relationship for helicopter crews who habitually supported the same ground unit, but it could cause problems between those who were not as well acquainted. Infantry commanders could on occasion not fully appreciate helicopter crews’ procedures, demanding performance of duties outside of what was considered safe, advisable, or efficient. Since the Army believed that the helicopter’s role was to assist ground operations, infantry leaders viewed any attached aircraft and its crew as a direct asset, subject to orders and under their chain of command. This is not a particularly curious line of thinking, as for the most part helicopters rarely acted in any capacity other than aiding the infantry – it stood as the basis on which airmobility was built.154

Army Aviation found that a lack of familiarity, or blatant disregard, among ground commanders about correct procedures could result in a misallocation of attached aircraft. Helicopters sent to resupply infantry units found themselves ordered to insert or extract ground forces in “instantaneous combat assaults,” which was in “complete disagreement with all instructions and standard operating procedures in force.”155 Not

154 The war may have begun with that concept, but aviation units began to organically develop and redefine the helicopter’s role until some missions and objectives did not involve aiding or coming into contact with the infantry at all. Army personnel’s employment of the helicopter was as varied as it was innovative. For examples of such battlefield expediencies see Barry Gregory, *Vietnam Helicopter Handbook* (San Bernadino, CA: Bargo Press, 1988); John Guillemartin, Jr. and Michael O’Leary, *Helicopters: The Illustrated History of the Vietnam War, Vol. 11* (New York: Bantam Books, 1988); Bob Chenoweth, *Army Gunships in Vietnam* (London: Arms and Armour Press, 1987).

only were the air crews unprepared, but because requests had not traveled the official channels they were without their customary gunship support or accompanied by other aircraft to assist in their own recovery if shot down. Officially such practices were “a misuse of aircraft resources and a potential hazard to all personnel concerned.”\textsuperscript{156}

Unplanned detours also affected the support others expected to receive from the aircraft in question. More importantly, though, these instances indicate the attitudes of some among the infantry – that helicopters existed to satisfy their unit’s desire, regardless of customary procedures. In the minds of pilots, either intentionally or not, ground commanders abused their authority.\textsuperscript{157}

Despite any hesitation pilots and crews, or even aviation battalion commanders for that matter, felt about fulfilling missions ordered by ground units, it was still their duty to comply. The 1\textsuperscript{st} Aviation Brigade made known that their roles were well defined. As to the question of “what a guy does or should do when he feels he has to turn down a mission or the mission is too difficult,” they had an obligation: “The weather can be deteriorating – the question of too much fire in an area, too hot an LZ, etc. The basic principle throughout is that the ground commander is the boss and let’s not forget it or let our people forget it! If ground commanders want our people to do something, we do it!”\textsuperscript{158} Though assault helicopter units still possessed options by appealing through aviation channels, the matter ultimately rested upon the fundamental concept of maintaining a rapport with ground commanders. “The best way to avoid a fracas of this

\textsuperscript{156} Ibid.


\textsuperscript{158} Department of the Army, Headquarters 1\textsuperscript{st} Aviation Brigade, “Commander’s Notes, Number 16,” (25 September 1967), p. 4, Box 9, Folder 3, George P. Seneff Papers, USAMHI.
sort” the brigade advised, “is to have personal relationships to avoid anything approaching an argument in this direction.”\textsuperscript{159} Above all, their rapport had to be strong enough that they “accept your advice and try to find a way of performing the missions as required.”\textsuperscript{160} Without a doubt, proper liaison between supporter and those whom they supported remained one of the most important aspects of non-organic airmobile unit operations.

In some ways there was a noticeable difference between the typical infantryman and the air crews who flew them to and from combat. Though they all received the same basic training and belonged to the larger organization, given the lack of a dedicated aviation branch it became easy for ranking officers to marginalize and subordinate the contribution of aviation personnel. To an extent there was a distance between pilots and troops on the ground. In the instance of non-organic helicopter units, they lived separately, only generally coming into contact during assigned missions; still, it was rare for crews to see the same infantryman twice, let alone strike up a close relationship.\textsuperscript{161} Even during occasions when they did meet, many were unrecognizable to each other. Pilots existed as disconnected voices in the sky, and when in-flight with passengers the close proximity between cabin and cockpit belied the real impossibility of gaining familiarity – flight noise, complicated procedures, lack of an intercom system to the

\textsuperscript{159} Ibid.

\textsuperscript{160} Ibid.

passengers, and a general high level of concentration on the task at hand prevented any attempts at acquaintanceship.\textsuperscript{162}

When they did have the fortune to meet on the ground and in a relaxed environment, however, it was a chance to bond. “It wasn’t too often that guys on the ground met the men who supported them and vice versa,” mentions Colonel David Hackworth, “so there was immediate camaraderie among us. And there was a lot of mutual respect, too. We looked in awe at the pilots for some of the amazing risks they took in our support…the pilots treated us infantry guys as if we were Wyatt Earp gunfighters in the old Tombstone bar.”\textsuperscript{163} Certainly many of the younger infantrymen appreciated the advantage helicopters offered them, but for many ground commanders it ultimately came down to their belief the aircraft was simply a tool at their disposal, an added dimension on the battlefield, “‘another vehicle, another weapons system’ – but one that could fly.”\textsuperscript{164}

Even the more mundane tasks of assault helicopter units required a degree of communicating proper procedures to supported ground units. Not all helicopter pilots spent the majority of their tour flying combat assaults. Rather, the day-to-day routine consisted mainly of resupplying infantry units in various locations, either at fire support bases or in the field during active operations. Though not necessarily considered combat

\textsuperscript{162} Gordon L. Rottman, \textit{US Helicopter Pilot in Vietnam} (Oxford: Osprey Publishing, Ltd., 2008), 4, 5. This lack of familiarity, though, was noticeably absent among Special Forces habitually supported by limited numbers of helicopter crews. U.S. Army Long Range Reconnaissance Patrols (LRRPS, pronounced “lurps”) enjoyed a particularly close friendship with some Army aviators, relying on specific crews to deliver their small teams behind enemy lines and save them from almost certain death or capture in the event of heavy contact. See Grant, \textit{Wings of the Eagle} and William Meacham, \textit{Lest We Forget: The Kingsmen, 101st Aviation Battalion, 1968} (New York: Ivy Books, 1999) for two of the best accounts of this considerable bond.

\textsuperscript{163} Hackworth and Sherman, \textit{About Face}, 527, 28.

\textsuperscript{164} CHECO Report – \textit{Army Aviation in RVN}, xiv.
missions, these “log” missions [logistics], or “ash and trash” as crews typically termed them, were still dangerous in their own right. They may not have been massed assaults into landing zones under enemy fire, but ash and trash flights still required flying over enemy territory.

Of importance also was the strain upon the crews. W.T. Grant, a pilot with the 17th Assault Helicopter Company explains the difference in missions and the frustration they caused. Assigned aircraft resupplied infantry battalions, hauling the needed “food, ammunition, medical supplies, and equipment that the battalion would need until its next log bird arrived. The log bird was also required to perform the ‘admin’ missions for the battalion – hauling the battalion commander around to visit his companies, replacement soldiers to the field, short-timers and injured soldiers to the rear.” As routine as the tasks sound, occasionally pilots confronted the inability of ground units to plan their resupplies well enough, causing the mission to be “frequently interrupted by captain so-and-so who wanted to go here or there. Log missions were usually long and frustrating.”

Certainly helicopter crews were in a support role, subject to the whims of those who they assisted, but it made it no less easy on the aviators. Arriving alone at infantry bases and delivering men and supplies could give one the impression helicopters were little more than “taxi-cabs” for the rest of the Army.

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165 Grant, Wings of the Eagle, 38. Grant discuses the poor planning: “Frequently, loads were not ready on time, so we were given two half-loads to take to one location . . . A little planning and having everything ready to go before the aircraft showed up would make things a lot easier on everyone and make the blade time go further toward logging the entire division.” Grant, Wings of the Eagle, 139. The 14th Combat Aviation Battalion complained of the same issue in late 1967 and early 1968. They found that when “aircraft report for a missions such as resupply, they are often poorly used.” They reported that “on several occasions resupply aircraft have taken several separate small loads to different locations which could have been combined into a larger load.” Their suggested solution was for aircraft commanders to go about “educating’ the ground units.” Department of the Army, Headquarters, 14th Combat Aviation Battalion, “Operational Report for Quarterly Period 31 October 1967”, pp.19, 20, Aviation Box 321, Folder 2, RG 472, NACP.
As the war progressed and ground commander became more comfortable using helicopters, micro-management of combat assaults developed into an increasing annoyance to aviation battalions. By 1968 records show intensified efforts by ground units to usurp dedicated chains of command during operations. Army General John J. Tolson asserts that he was struck by “the matter-of-fact attitude” of how ground commands that used attached helicopters saw these assets. After the initial trials of 1965 and into the offensive operations of 1966-67, “these units took airmobility for granted,” oftentimes simply considering “themselves as much airmobile as the 1st Cavalry Division although they were not officially designated as such.”\footnote{Tolson, Airmobility, 84.} It became more prevalent as the war progressed, but Tolson is spot-on with his assertion that “Every commander instinctively knew that he could do certain things with ‘his’ Hueys. . . .” That predilection towards hyper-management was not lost on the supporting aviation companies.\footnote{Ibid., 84, 85.}

Command and control aircraft which offered infantry officers the ability to direct their ground elements, transformed into airborne headquarters of over-controlling leaders. Their attempts to appropriate helicopter assets mid-operation often devolved the combat assaults into micro-managed turmoil. During the end of 1968 the 101st Aviation Battalion determined that “routine missions are over controlled to the point where aviators are almost removed from the planning phase completely.”\footnote{Department of the Army, Headquarters 101st Aviation Battalion (Assault Helicopter), “Operational Report of 101st Aviation Battalion (Assault Helicopter) for Period Ending 31 January 1969,” p. 8, Aviation Box 351, Folder 3, RG 472, NACP.} Though standard operating procedures dictated that a C&C aircraft should control the operation, the aviation battalion considered this a “misutilization” of aircraft when the routine mission only
consisted of five troop-carrying helicopters. If properly briefed by the ground units, they argued, there was “no substantial reason for the infantry commander and staff officers to control routine missions. Aviation flights have been accomplishing this for years, and are capable of continuing to do so without” the added complication of a C&C aircraft.\footnote{Ibid.}

Though the infantry had been touting heli-borne warfare as the wave of the future for some time, combat proved there was a long way to go before aviation and infantry could operate together smoothly. A simple lack of experience or inflexibility among ground commanders meant some did not comply with what assault helicopter units determined to be the correct procedures. Whether they viewed the aircraft as taxi cabs or their own personal air force, without acting in accordance with the appropriate methods, their actions could either cause waste or put helicopter crews needlessly in danger. Despite the occasional issues when facing obdurate infantry commanders, Army Aviation continued to develop, refine, and implement their combat procedures.

**My backyard, my methods**

The third factor to affect the development of assault helicopter doctrine was an effort to standardize techniques and procedures. Due to the disparity in geography, mission, and unit standard procedures, it was difficult, if not impossible, to draft an overall Vietnam tactical manual. Aviation commands could sometimes employ varied and unique standard procedures, different than those employed by similar units elsewhere in Vietnam. This lack of a unified approach offered many helicopter units a degree of ad hoc improvisation, unburdened by a prescribed doctrine.
Despite the inherent difficulty, the 1st Aviation Brigade attempted to solve the practice of diverse procedures among their subordinate units. Beginning in 1966, in the early weeks of their existence, Brigade Commander Brigadier General Seneff made known his desire to emphasize standardized methods of operations, mentioning in his first official correspondence to his brigade that “This headquarters will publish a tactics and techniques SOP covering these and other subjects as a first priority task.”

Believing standardized “flying tactics and operational techniques” could improve “overall mission capability,” the issue was worth mentioning as the very first official order of business which the commander wished to address. Throughout 1966 the brigade conducted command and staff visits to its subordinate battalions and companies to study each one’s methods for the area. Their purpose was to collect information which could “result in standardizing, as much as possible, the techniques and procedures to be used in all areas of operation.”

The basis of the doctrine traced back to the 11th Air Assault Division – no surprise given Seneff’s former affiliation. From there, the brigade’s own combat experience culled from official reports and comments from the field augmented the principles as used by the 1st Cavalry Division. The resulting Brigade Operations Manual detailed
pertinent aspects of airmobility – specifically products of a Vietnam experience – intended for consumption by aviator and infantryman alike. Not only did it allow the command to offer a program of consistent procedures for ease of operations, but it informed the ground units of assault helicopters’ capabilities.

In a sense the brigade knew that they would encounter some amount of obduracy amongst the infantry units. Seneff’s language on the matter is offensive-minded, warning his subordinates that “Selling this isn’t going to be easy.” One must appreciate that the infantry whom the 1st supported were not as extensively trained as the 1st Cavalry in the methods of heli-borne warfare. The manual served to introduce many techniques in which ground commanders may not have been well accustomed in hopes of “stressing capabilities and limitations of supporting aviation units.” As a means to acquaint the supported infantry, the brigade sent a “Briefing Team” to each major command in-country throughout 1967.

In order to foster strong relationships between ground units and their aviation support, as often as possible non-organic helicopter commands attempted to pair specific aviation units with infantry battalions they had supported in the past. The 1st Aviation

By November, the brigade began the first changes to the manual. The revision committee’s members came from within the brigade, along with personnel from the 1st Cavalry Division. Department of the Army, Headquarters, 1st Aviation Brigade, “Commander’s Notes, Number 8,” p. 5, 4 November 1966, Box 9, Folder 3, George P. Seneff Papers, USAMHI.

173 1st Aviation Brigade, “Commander’s Notes, Number 4,” p. 5.

174 Headquarters 1st Aviation Brigade, “Commander’s Notes, Number 16,” (25 September 1967), p. 3, Box 9, Folder 3, George P. Seneff Papers, USAMHI.

175 1st Aviation Brigade Headquarters noted that the “Response to the manual was generally favorable, although there was evidence of skepticism in a couple of instances.” Assurance from aviation units that endorsement of the manual would mean better planned and executed missions may have fell on some deaf ears, but the Brigade was adamant they urge consent. According to the 1st, marketing of the manual’s ideas fell upon field units: “Remember you are the gents who have to peddle this business with the people you work with on a daily basis. So the team may have helped out to some small extent – but from here on it’s up to you to train the people in the field.” Ibid., 3.
Brigade found after discovering harmonious relationships they should capitalize upon these experiences and in future instances continue such pairings when feasible. In a real sense this practice was only logical, because the “more a supporting aviation unit knows about its supported unit, the better its capability of providing the best possible support.” Once aviators became comfortable with how particular infantry units operated, their services could become better utilized, with less time and effort wasted re-orientating their methods for whom they supported. Good rapport between the commanders of ground and aviation assets was key to “build and sustain a unique confidence which has proven substantially responsible for maintaining operational stability during critical combat situations.” Quite clearly, interpersonal relationships dictated much of airmobility’s success or possible failure.

Due to the varied terrain in Vietnam, not every unit throughout the country adhered to the same tactical procedures. The mountains of northern RVN often necessitated entirely different operating techniques than in the rice paddies of the south. Helicopter crews who faced densely forested areas met with the reality that available landing zones proved difficult to find and even more challenging to use safely. Aviators operating in the Delta region employed altered procedures tailored to meet the enemy resistance in the area, oftentimes local Viet Cong, not the North Vietnamese regulars to the north. Varied terrain consisted of more than mountains and paddies as popular

176 Department of the Army, Headquarters, 1st Aviation Brigade, “Tactical Lessons Learned Nr. 2,” (8 November 1966), p. 1, Box 9, Folder 1, George P. Seneff Papers, USAMHI.
178 The 1st Aviation Brigade discovered in late 1966 that operating in the Delta created unseen complications in planning. Since Viet Cong and local guerrillas avoided contact and moved often, it was difficult to construct set-piece battles. The resultant meetings with the enemy meant “combat is short and
memory may suggest, however. Wooded areas covered flat ground, hedgerows or other barriers often bordered farm fields, and heavily vegetated plateaus covered in mostly high grasses obscured distances to the ground. As a result, helicopter companies or battalions devised methods applicable to the geographical environments in which they operated.

Unique procedures, common to one unit but unusual to others, made it difficult to work alongside helicopter units unfamiliar with a particular area. The 101st Aviation Battalion discovered the disparity in each aviation unit’s techniques during the 1969 operation Lamar Plain. Normally headquartered in central I Corps, a company from the battalion relocated to southern I Corps in preparation for Lamar Plain. One of the fundamental lessons the 101st learned during the operation dealt with how their techniques compared to other units. They noted that “Aviation units have to be versatile on all combat operations” and Lamar Plains “proved that different units in Vietnam have completely different tactics and means of employing these tactics.”

The point was not academic, as “Small problems were encountered by the use of set tactics and two units working together without an understanding of the others tactics.” Many assault helicopter battalions had spent considerable effort standardizing methods within their own unit.

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180 Ibid., 7.

181 Ibid.
Just as particular areas of operation (AO) required unique approaches, the infantry also tailored their operations to the geographic areas in which they operated. As these ground and air commands worked together, they formed a mostly unofficial approach to their AO, sharing an understanding of how best to use their assets. For this reason, in the instance of II Field Force Vietnam, planners often strove for a continuity of pairing assault helicopter companies (AHCs) with familiar ground units.\(^{182}\) Reportedly, due to the exhortations of one commanding general there, the pairing of aviation units to specific infantry counterparts remained mostly consistent. He was heard to have quipped in response to a suggested reassignment in the Mekong River Delta, “Don’t take that unit out of there; they’ve got web-feet!”\(^{183}\)

An appreciation of how terrain affected tactics was not lost on one officer who explained that “Up north, for example, there were jungles and hill, and forests. The Choppers had to come in vertically over 150-200-foot trees into holes in the vegetation.” Operations in the Mekong River Delta of III and IV Corps meant “the aircraft were used a lot with boats, and this required different techniques. And in rice paddy areas, troops have to be inserted in a totally different way….\(^{184}\)” Fundamentally, the officer illustrates his understanding “that the areas are so different,” it necessitated that “the expertise that is developed in each should be kept there.”\(^{185}\) Overall, standardization of aviation techniques across Vietnam was not easily solvable as a result of terrain, areas of operation, and command relationships.


\(^{183}\) Ibid., 4.

\(^{184}\) As quoted in CHECO Report – *Army Aviation in RVN*, 3.

\(^{185}\) As quoted in CHECO Report – *Army Aviation in RVN*, 4.
The Enemy Reacts

The final component to affect developments in techniques and procedures was the opposition’s own reaction to helicopters. Due to an increased presence of Army aircraft, throughout 1966 and onward the NVA and VC shifted their tactics in response to the helicopter threat. Reversion back to guerrilla-type warfare and employment of increasingly lethal anti-helicopter devices illustrated a growing familiarity with U.S. capabilities and procedures. Their adjustments required Army Aviation not only note the changes, but to respond to them effectively.

Employment of anti-helicopter techniques and devices by the enemy during the Vietnam War began with primitive measures, but gradually they grew in lethality and sophistication. The Viet Cong understood well the importance of LZs to heli-borne operations, and captured documents from 1966 exposed this reality.\footnote{Department of Defense, Intelligence Information Report, “Captured Documents (CDEC): VC Training Program for Anti-Aircraft Weapons,” 26 September 1966, Folder 1327, Box 29, Vietnam Archive Collection, The Vietnam Archive, Texas Tech University. The anti-helicopter manual describes how to booby-trap landing zones with grenades and TNT.} Knowledge of anti-helicopter methods filtered up through the chain of command, garnering attention even in the Pentagon. In a 1967 Pentagon press briefing the 1\textsuperscript{st} Aviation Brigade’s commander mentioned that “The enemy in RVN has tried to develop effective means to impede heli-borne operations. New enemy tactics require a concentrated effort on our part to learn their techniques in sufficient time to render them ineffective.”\footnote{Major General George P. Seneff, Press Conference at the Pentagon (October 13, 1967), “Selected Statements on Vietnam by DOD and Other Administration Officials: July 1 - December 31, 1967” (11 January 1967), p.3, Folder 18, Box 1, Glenn Helm Collection, The Vietnam Archive, Texas Tech University.} Common methods included planting mines and booby traps in potential landing zones with the aim of destroying vulnerable aircraft. Army helicopters encountered both pressure and
command detonated mines and most often these devices were affixed to trees, hidden on rice paddy dikes, or small mounds. American standard procedure to counter these threats became the employment of Air Force “daisy cutters” – a conventional bomb used to demolish large tracts of dense foliage with devastating effectiveness – in order to destroy any such devices. Commanders were also advised to avoid landing on dikes and away from tree lines where mines or booby traps were likely located.\textsuperscript{188} Despite their best attempts at altering procedures, though, aviation units could sometimes employ almost formulaic approaches to combat assaults.\textsuperscript{189} Certainly air assaults could become habitual in their execution, as not all required innovative thinking. Changes in the enemy’s tactics, though, ultimately forced aviation units to reevaluate their standard procedures and appreciate their adversary’s own capabilities.

The most noticeable change made by the opposition, though, was their unwillingness to fight conventionally as they had at Ia Drang. U.S. mobility and quick reaction time meant NVA and VC forces were not likely to offer open battle, and throughout 1966 they had proven increasingly difficult to find. A larger American presence and the growing numbers of aviation units forced a dispersion of their once-concentrated units. It does not seem too unusual that the Viet Cong and North Vietnamese Army would shift their tactics; not to do so would have meant an inability to evolve just as most militaries are obligated to do when faced with battlefield defeats.

Americans noted modification of their ground-unit maneuvers in late 1966 when the 1\textsuperscript{st}

\textsuperscript{188} Department of the Army, Headquarters, 1\textsuperscript{st} Aviation Brigade, “Tactical Lessons Learned Nr.4,” (12 May 1967), p.1, Vietnam Helicopter Pilots’ Association (VHPA) Collection: Unit Histories – 1\textsuperscript{st} Aviation Brigade, The Vietnam Archive, Texas Tech University.

\textsuperscript{189} Department of the Army, Headquarters, 13\textsuperscript{th} Combat Aviation (Delta) Battalion, “Operational Report for Quarterly Period Ending 31 October 1967,” (15 November 1967), pp. 9, 10, Aviation Box 297, Folder 1, RG 472, NACP.
Aviation Brigade observed that because of continued U.S. victories “it has become apparent that the Viet Cong now consider it tactically unsound to mass their troops. This is primarily due to the airmobility available to the ground forces . . . . Therefore the VC seem to have chosen a regressive path back to guerilla type warfare.”

Understanding that changes in the opposition’s tactics required appropriate countermeasures, the brigade suggested reviewing their current procedures “in order to adapt new techniques that are tailored to the changing tactics of ground forces on both sides. Units should concentrate on developing more effective methods of accomplishing missions . . . .”

Changes in ground maneuvers directly affected how helicopters assisted the infantry they supported, meaning previously utilized techniques required alterations.

It was in part the increased presence of U.S. aircraft that caused the insurgents and regular units to become more difficult to find. During this period the scale of helicopter operations and the numbers available increased dramatically. Eleven Army helicopter companies deployed to Vietnam in early 1966, increasing Westmoreland’s inventory to 1,374 Hueys. An additional sixteen companies arrived during the first six months of 1967, followed by twenty-three in the latter half. Tied intimately with the growing strategy of attrition, the Army upheld the belief that airmobility was “one of the

190 Department of the Army, Headquarters, 1st Aviation Brigade, “Tactical Lessons Learned Nr. 3,” p.3, 7 January 1967, Box 9, Folder 1, George P. Seneff Papers, USAMHI. North Vietnam’s most ardent proponent of main force units was Nguyen Chi Thanh. Opposed to this strategy was the Viet Minh hero of Dien Bien Phu, Vo Nguyen Giap, who called for a reliance on guerrilla warfare. Search and destroy missions throughout 1966 and early 1967 compromised the communist forces’ capabilities, leading to a reliance once again on guerrilla war, signaling a victory for Giap in what amounted to a two year debate with Thanh. Wirtz, The Tet Offensive, 49-52.

191 1st Aviation Brigade, “Tactical Lessons Learned Nr. 3,” 3.

192 MacGarrigle, Taking the Offensive, 17. The average assault helicopter company had twenty-three UH-1D/-H-model Hueys for airlift purposes. CHECO Report – Army Aviation in RVN, figure 9; Fullbrook, “LAMSON 719, Part I: Prelude to Air Assault,” USAAD, Vol. 32, No. 6 (June 1986), 14; Stanton, Vietnam Order of Battle, 49.
major tactical advantages possessed by the allied forces.”\textsuperscript{193} Throughout 1966, however, they understood that airmobility had to adapt. It was clear that the “techniques of airmobile operations are undergoing continual refinement and new lessons are being learned as different environmental conditions or different enemy tactics and techniques are encountered.”\textsuperscript{194}

When the North Vietnamese and Viet Cong did come out of their sanctuaries to fight during the 31 January 1968 Tet Offensive, assault helicopter units altered their normal procedures in response. The enemy’s comprehensive night-time attack on urban centers, government buildings, and many major allied installations required improvisation from Army Aviation. Assault helicopter companies flew throughout the night supplying isolated outposts and bases with crucial supplies. Breaking up into smaller elements the next day, sometimes only one or two helicopters each, AHCs hauled badly need supplies to replenish those used throughout the night of frenetic battle. They made numerous assaults, picking up and inserting infantry in attempts to surround and destroy the fleeing enemy who retreated in fractured bands. Small unit actions typified most of the aviation operations in response to Tet, lasting weeks after the initial offensive.\textsuperscript{195} Operationally their response to a surprise offensive demonstrated procedural dexterity among aviation units, forcing ad hoc revision to how most pilots were used to


\textsuperscript{194} Ibid.

\textsuperscript{195} While small elements of helicopters were the common in the weeks after Tet, the 1\textsuperscript{st} Cavalry did execute a notably large operation. Code-named Operation Pegasus, it sought to break the seventy-seven day siege on the Marine base at Khe Sanh. Launched 1 April, it employed a collection of Marines, Army units, and ARVN to open the crucial Highway Nine, opening an overland route to the 6,000 surrounded Marines. Author of the most notable work on airmobility, John Tolson, commanded the 1\textsuperscript{st} Cavalry during Pegasus. For his explanation of the operation, see Tolson, \textit{Airmobility}, 165-180.
operating. For the entirety of Vietnam, Army Aviation had to alter continually their methods and procedures in direct response to the actions of their opposition. The best illustration of that fact, however, is found in the culminating U.S. operation of the war, where prior experience and methods did not prepare helicopter units for a more sophisticated North Vietnamese Army.

The Reckoning: Lam Son 719

The NVA demonstrated in 1971 just how sophisticated their weapons and anti-helicopter methods had become during the United States-supported Operation Lam Son 719. An offensive into Laos by American and South Vietnamese forces in order to disrupt the flow of supplies into RVN, the operation proved to be a final large test of airmobility in the Vietnam War. The tactics pioneered and refined throughout South Vietnam proved disastrous in Laos. Despite the Army’s mostly successful implementation of airmobility to date, Lam Son 719 was a sobering event which called their helicopter doctrine into question. The operation was a milestone while simultaneously a black-eye for Army Aviation. Though, it was the largest singular mass air assault in their history to that point, it also exacted the worst rate of attrition in aircraft shot down or damaged during the decade of conflict.

In the months preceding Lam Son 719, American and South Vietnamese intelligence showed that North Vietnamese intentions for the coming dry season in Laos, October 1970 to April 1971, was to open up supply lines into RVN in preparation for a

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196 The Americans named the initial phase of the operation, the reopening of Khe Sanh as a staging base, Dewey Canyon II. Lam Son 719 was actually the South Vietnamese designation of the operation, and it has since become primarily referenced by this name since it was technically an ARVN operation with the U.S. only providing tactical support. SP5 Terry Ogle, “Lam Son 719,” Hawk, Vol. V, No. 1 (Spring, 1971), 4.

large offensive. With this information in mind, allied forces planned to disrupt their opposition’s supply routes and halt the offensive before it began. Given U.S. President Richard Nixon’s policy of Vietnamization – an attempt to lessen the American presence in Vietnam by handing over more operational responsibility to the South Vietnamese military – no U.S. troops took part in the ground portion of Lam Son 719. It constituted the largest combined operation between the allies. Allied planners intended to evidence the ARVN’s progress in combat effectiveness by giving them the responsibility for ground unit actions.\(^{198}\) Rules of engagement limited the extent to which Americans could operate. Helicopter pilots could not land while in Laos unless inserting or extracting troops, or while delivering supplies and equipment.\(^{199}\) American forces, however, provided the crucial air support in helicopters and fixed wing aircraft. Chief among the helicopter assets was the 101\(^{st}\) Airborne Division (Airmobile), who provided the bulk of supporting aircraft with their own organic assets, along with sundry other aviation units under temporary operational control.\(^{200}\)

Throughout the era of direct American involvement in Vietnam, the war qualified as a “low-intensity conflict” – an insurgency of varying composition fought by small units utilizing basic weapons and tactics. By the late 1960s and into 1970, however, after the Ho Chi Minh trail began operating more effectively and dedicated anti-aircraft


\(^{200}\) The 1\(^{st}\) Aviation Brigade provided men and equipment as well. Specifically for Lam Son 719, units from across the brigade reformed into the 223\(^{rd}\) Combat Aviation Battalion. Ogle, “Lam Son 719,” 4.
weaponry from sympathetic communist countries could arrive in the south, helicopter crews began facing more lethal armaments. Along with these weapons the NVA developed a greater understanding of how to employ them against helicopters. Lam Son 719 was the first time Army Aviation experienced the more complicated North Vietnamese weapons and tactics, qualifying as a “mid-intensity conflict” where “combatants employ their most modern military technology and military resources short of nuclear, chemical and biological weapons.” Beyond the threat of booby-traps and rocket propelled grenades in the landing zones to which American crews had become accustomed, this was an entirely different menace. Helicopter pilots and crews had no prior experience on which to rely when they initially launched the operation. Stateside training, in-country orientation, and prior combat knowledge offered no suggestions for dealing with such a dense network of formidable surface-to-air weaponry.

Neutral Laos offered the enemy an advantage in planning and capabilities. Understanding the likelihood of an allied cross-border offensive, communist forces prepared defensively. Additionally, unlike in South Vietnam where Americans could preclude substantial massing of men and equipment, NVA preparations could occur with greater ease. Utilizing their knowledge of LZ and PZ ambush techniques, the North Vietnamese Army was able to bring to bear concentrated fire on Army aircraft. The

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201 Fulbrook, “LAMSON 719, Part I: Prelude to Air Assault,” 9, 10.
203 Army forces encountered further complications when choosing areas to off-load troops. Due to a critical lack of suitable landing zones – what little naturally existed were only large enough for one or two aircraft simultaneously, and even those required hovering approaches and departures – the Air Force created make-shift LZs with ordnance. Most landing zones were “so obvious to friend and foe alike that they were habitually defended by the NVA.” Letter of Instructions, Airmobile Operations Study Group, 25 February 1971, Folder 06, Box 01, Vietnam Helicopter Pilots Association (VHPA) Collection: Lam Son 719, The
NVA effectively coordinated their complex network of air defenses and accurately fired upon LZs and PZs. Some anti-aircraft weaponry was radar-controlled and they directed simultaneous mortar, artillery, and rocket fire towards the most potential landing and pickup zones throughout the area.204

Due to the dense and effective ground fire, U.S. gunship support, so effective in most previous air assaults, could do little to suppress the anti-aircraft threat. Lift units found themselves overwhelmed throughout most of the forty-five day operation. So accurate was the anti-aircraft fire that every mission, no matter size or objective, required specific planning to lessen the risk of more grievous losses.205 Few aircraft did not experience some degree of combat damage. For those waiting at Khe Sanh, the staging area for aviation units during the operation, returning helicopters crippled by enemy fire became a common sight. One aviator commented that “Army pilots were living proof of months of difficult training. Countless repetitive emergency procedures were put to reflexive use.”206

Throughout most of the Vietnam War, flights often flew at an advised 1,500 feet or higher to avoid small arms fire, and due to safety concerns combat assaults usually adhered to this recommendation. However, in Laos such guidelines exposed aircraft to accurate ground-to-air fire. By the end of Lam Son 719, helicopter pilots used single ship insertions at thirty second intervals combined with low level flight into and out of the

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204 Letter of Instructions, Airmobile Operations Study Group, I-12.
205 Sorley, A Better War, 251.
landing or pick-up zones in order to avoid enemy fire.\textsuperscript{207} Operational flexibility was the hallmark of the operation, as it required quick adaptability by assault helicopter companies to the combat situation.

Understanding the unique nature of Lam Son 719 in terms of the overall Vietnam experience, the 101\textsuperscript{st} Airborne Division’s headquarters conducted considerably thorough examinations of the operation in an attempt to “record the history of the airmobile aspects . . . and derive lessons and guidelines to improve current and future airmobile operations, organization, and doctrine.”\textsuperscript{208} The Division looked towards the future of airmobile operations, disseminating the lessons learned from Lam Son 719 most directly applicable to Europe and mid-intensity conflict, something they deemed a “special case.” Regardless of the uniqueness of the operation, they felt that it represented the positive aspects of airmobility, which confirmed “the soundness and validity of the concept and principles of airmobility developed and practiced by the United States Army.”\textsuperscript{209} Despite the historical memory of the operation as one which constituted a Pyrrhic victory – losses in helicopters outweighed the true gains made during Lam Son 719 – the 101\textsuperscript{st} considered it a matter of perspective. The division felt there were “remarkably few helicopters and crew members lost” in spite of the high numbers of sorties flown in heavy anti-aircraft and ground fire “on NVA home ground.”\textsuperscript{210}

The very nature of what the airmobile units experienced in Laos was something to which they were not accustomed. For close to a decade Army Aviation operated against a

\textsuperscript{208} Letter of Instructions, Airmobile Operations Study Group, 1.
\textsuperscript{209} 101\textsuperscript{st} Final Report, Lam Son 719, I-49.
\textsuperscript{210} Ibid., p. I-55.
rather unsophisticated foe. Though the North Vietnamese and Viet Cong made efforts to combat helicopters, they did not constitute a grave surface-to-air threat until 1971. Even then it was perhaps more due to the particular circumstances of their extensively-prepared sanctuary area. To some, the operation was proof that airmobility was a flawed concept. It could be heralded, however, as an illustration of the developing nature of the concept itself. Official reports are replete with observations of methods and procedures unique to Lam Son 719 – few prior operations received such thorough analysis. It provided insight that the previous decade of combat knowledge could not. In that regard, Lam Son 719 is an appropriate bookend to the story of helicopter operations. It emphasizes the continual adaptation and refinement of procedures, techniques, and tactics used by Army assault helicopters throughout the Vietnam War.

**Conclusion**

Following the 1<sup>st</sup> Cavalry Division’s actions during the 1965 Pleiku Campaign it appeared evident that airmobility was to become an important aspect of American military operations. It is likely few could imagine, however, the extent to which helicopters became, arguably, the major component of the U.S. Army effort in Southeast Asia. Indeed, examples of effusive praise for the helicopter abound from members of the Army. Much of their approval mirrors one aviation battalion commander’s belief that “The helicopter in Vietnam has proven itself beyond any doubt as the vehicle primarily responsible for the success of our ground forces in the combat theater.”<sup>211</sup>

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<sup>211</sup> Department of the Army, Headquarters 269<sup>th</sup> Combat Aviation Battalion, “Operational Report—Lessons Learned for Quarterly Period Ending 31 January 1968,” (1 February 1968), p. 1, Aviation Box 532, Folder 4, RG 472, NACP.
the types of aircraft was the utility helicopter, one which flew daily – and nightly – across South Vietnam completing numerous tasks.

Noteworthy among the many outcomes of the Army’s reliance upon helicopters is the formation of the 1st Aviation Brigade. Buoyed by the 1st Cavalry Division’s success at Ia Drang and supported by the supreme commander of allied forces, General Westmoreland, it should perhaps not be surprising helicopters took on such a crucial role. Conventional infantry divisions enjoyed a degree of airmobility not originally envisioned by the earliest supporters of the concept; many foresaw dedicated airmobile divisions, but few predicted an entire airmobile army. Already by 1966 General Howze noticed that many infantry units had gained an airmobile capability not altogether inferior to that of the 1st Cavalry. The supply of aircraft eventually met the need, since helicopters had become such a crucial requirement. As Howze further notes “the alternative would be to deny them an essential means of combat.”212 To a large degree, the Army did become airmobile; if not officially designated as such they certainly relied upon that capability in a real sense. American military planners designed the types of operations infantry units undertook in Vietnam throughout 1966 and into 1971 with the helicopter in mind. Indeed, one can hardly imagine the offensives which typified the era as possible with conventional transportation means.

These capabilities were not something the Army inherently knew how to exercise from the outset, though. Rather, it required imagination and gradual innovations to refine the methods of utilizing helicopters in a counterinsurgency. Given Army Aviation’s relative youth, Vietnam was the requisite testing ground needed to improve their doctrine.

While other Army branches had the benefit of decades or more of preparation to solidify procedures, assault helicopter units operated on a very limited basis of experience. Conversely, those with whom aviators worked had even less of an understanding. In 1966 Brigadier General Seneff commented that “All other combat branches of the Army have firm tactical doctrine. Liaison, communications, operational planning, support procedures and tactics have been developed over a long period of time and are accepted as standard throughout the military.” In order to become effective quickly Army Aviation had to become just as consistent with their methods to facilitate understanding among the infantry of how to use helicopters. Assuredly, the Army entered Vietnam as a force familiar with helicopters, but not intimately knowledgeable in the methods required to combat an insurgency with them. They had to devise those means, while simultaneously creating reliable and efficient doctrine.

As a result of the culmination of knowledge gained successively throughout the war, an altered strategic approach, and in response to the enemy’s own tactical revisions, there was never a moment when airmobility and helicopter techniques became solidified enough not to demand further modifications. Indeed, regarding the enemy’s effect on procedures one colonel commented in 1966 that “One cannot tell from one day to the next what reaction will come from the enemy . . . . Every day sees changes in tactics and techniques as the continuous quest for better methods of defeating the VC goes on.”

Throughout the historical record, official reports from aviation units contain innumerable instances of an army coming to terms with their mission and the procedures which could

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213 Department of the Army, Headquarters USA Aviation Brigade (Provisional), “Commander’s Notes, Number 2,” p. 1 (18 April 1966), Box 9 Folder 3, George P. Seneff Papers, USAMHI.
best serve the objectives. To some degree it necessitated winning over some obdurate
members of the ground forces community, educating all as to the potential and correct
employment of helicopters on the modern battlefield. If airmobility came of age in 1966,
it matured further in the following years. In the main, the concept was sound, but
refinements in tactics, procedures, and mission signaled there was still much to learn
about its usage. How Army Aviation communicated such insight, theories, and ideas was
crucial in order to remain a viable force. For that it required a network of information
channels to translate experiences from the pilot’s seat into inherited wisdom.
CHAPTER 3: COMMUNICATING AND DISSEMINATING INNOVATION

“How many costly mistakes have been repeated and lives lost as the thousands of Army aviators . . . searched for effective tactics and techniques which had already been employed but not shared?” This question posed by a major in 1968 was a relevant one at the time. Battlefield knowledge collected by helicopter units about how to combat an insurgency had the propensity to become confused, if not lost, unless compiled in an efficient manner. As a result there were four main methods of relating combat experience. First, the official Army Operational Report – Lessons Learned detailed aspects of operations conducted in Vietnam. Second was the publication of military periodicals containing articles which encouraged an unofficial dissemination of ideas. Third, a close connection between Vietnam battlefields and Army Aviation’s training schools ensured a curriculum that reflected combat experiences. Finally, in-country orientation, which taught pilots newly-arrived in Vietnam refined training alongside veterans. All of these methods constituted extensive means of relating insights and translating them into reliable doctrine. It is demonstrative of a military coming to terms with a new technology, and an example of how such a force reports, interprets, and evaluates knowledge gained through combat experience.

Operational Reports – Lessons Learned

Among the official means of communicating new information was the Operational Report – Lessons Learned (OR-LL). They were a record of “significant organization or unit activities” in which each unit took part throughout three month periods, including total hours flown, combat losses, and the manifold logistics of war. In contrast to the sometimes narrow-sighted after-action reports, OR-LLs generally examined the larger picture of how and where a particular unit operated during the reporting period. Most important for tactical evolution, though, were the “lessons learned” portion of each OR-LL. Not only did they provide a historical account of specific units, but they enabled the Army to record the observations and recommendations of combat commanders.216 Importantly, these covered multiple aspects of combat, including “joint and combined operations and support activities pertinent to doctrine, organization, equipment, training, administration, techniques, and tactics.”217 The lessons learned contained issues encountered during all types of sorties or operations. Commanders expressed ideas on tactics, techniques, and procedures, and recommended action at the appropriate level.218

To a great extent these items reveal that certain issues could come to light only on the battlefield. In the words of one aviation battalion commander the “lessons to be

217 Ibid.
218 There was the possibility of the OR-LL becoming a vehicle of potentially trivial dissatisfactions. 1st Aviation Brigade commander Brigadier General Seneff recognized this problem in April 1967: “The preparation of ORLL’s [sic] is to serve specific purposes. USARV [United States Army, Vietnam] Regulation 1-19 specifically states that the report will not be used as a sounding board for airing inconsequential complaints; yet, reports continue to be received which are used for this very purpose. ORLL’s [sic], if properly prepared and documented, can provide invaluable service to like units and higher headquarters. Hastily prepared ORLL’s [sic] with trivial content wastes the time of all who process them.” Department of the Army, Headquarters 1st Aviation Brigade, “Commander’s Notes, Number 12,” (27 April 1967), pp. 3, 4, Box 9, Folder 3, George P. Seneff Papers, USAMHI.
learned in airmobile concepts can only be taught here in the combat theater.”

Airmobility, he argued, was still evolving, and “solutions to heliborne tactics are still being discovered, still being exploited. The hard, fast, rules still emanate from the fire received in an enemy occupied landing zone.”

Though prior stateside tests provided a foundation, combat dictated what truly worked, and Army Aviation relied on OR-LLs to communicate that information for larger dissemination.

The notable aspect of the system was the dialogue it created, as reports from subordinate units which filtered up the chain of command required either their agreement or “nonconcur.” If the headquarters found the suggestions worth endorsing, those solutions could ultimately become standard procedure for other units. Multiple levels of the chain of command scrutinized OR-LLs. Eventually the Army Chief of Staff, Force Development, Department of the Army in Washington D.C. received the modified report. Ultimately, this process directly affected future training, as those involved in the review could recommend “appropriate CONUS [Continental United States] training agencies consider the recommendation as stated.”

For the most part this denoted the Army Aviation training center at Fort Rucker, but the benefits of OR-LLs extended beyond

219 Department of the Army, Headquarters 269th Combat Aviation Battalion, “Operational Report—Lessons Learned for Quarterly Period Ending 31 January 1968,” (1 February 1968), p. 1, Aviation Box 532, Folder 4, RG 472, NACP. OR-LLs could also relay new information regarding the enemy’s own tactics. In 1967 the 13th Combat Aviation Battalion noted what is certainly one of the most bizarre examples of the enemy’s resourcefulness, that “Several reports were received stating the VC are attempting to use bees and hornets as an anti-personnel and boobytrap device. Quotas have been given as to the number of bee hives and nests each village and hamlet will maintain.” Department of the Army, 13th Combat Aviation Battalion, “Operational Report Lessons Learned for Period Ending 31 October 1967,” (15 November 1967), p. 5, Aviation Box 297, Folder 1, RG 472, NACP.


aviation, too.222 The information acted as academic data for the Army’s future leaders – all branch training schools received copies of the reports “for review and evaluation,” including the War College, Armor, Aviation, and Infantry Schools among others.223 Indeed, since airmobility was such an important aspect of the Vietnam-era military, other branches would likely benefit from a knowledge of how airmobile units operated.

Open exchanges of ideas extended to most of the assault helicopter units. Their experiences, difficulties, and solutions became important information for others. Dissemination of OR-LLs occurred throughout Vietnam, and in one form or another they found relevance among fellow aviation commands. Some, as in the case of the 101st Airborne Division’s organic aviation unit, the 101st Assault Helicopter Battalion, published a bulletin with salient points gathered from other units, believing that to profit adequately from these experiences meant implementing similar methods.224 The 1st Aviation Brigade practiced a similar method. Comprised of tactical lessons from their subordinate battalions and companies, they compiled multiple “Tactical Lessons Learned” reports “with a view toward ‘spreading the word’ so that successful techniques employed by one unit may be made known to others so that we may all learn from each others [sic] mistakes.”225

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222 In 1966 the U.S. Army Aviation Center at Fort Rucker began reviewing OR-LLs for their potential influence on their manuals and TOE (Table of Organization and Equipment, which assigns the organizational makeup and equipment used by particular units). Rucker then produced their own quarterly report detailing how they utilized OR-LLs, which they forwarded to the U.S. Army Developments Command. Office of the Adjutant General, United States Army Aviation Center, U.S. Army Aviation Center History Annual Supplement, 1966, 53.


225 Department of the Army, Headquarters, 1st Aviation Brigade, “Tactical Lessons Learned #1”, p.1, 22 July 1966, Box 9, Folder 1, George P. Seneff Papers, USAMHI.
Aviation commands considered any information which might have been helpful to
the training schools. As the former Director of Army Aviation, brigade commander
Major General George P. Seneff, Jr. understood the importance of OR-LLs and the
training curriculum’s dependence on them. In 1967 he informed his subordinates that
“My staff is working on, as always, studies on doctrine, tactics and techniques of
airmobile operations, etc.”\textsuperscript{226} Partly to help in standardization, but also to be
“appropriately incorporated in service schools at Rucker, Benning, and other places
where people are being prepared to come over here.”\textsuperscript{227} Pointedly, Seneff reveals that this
effort was “completely dependent on you people to put good information in Your [\textit{sic}]
Operation Lessons Learned and other reporting that you send us.”\textsuperscript{228}

Above all, Seneff’s orders illustrate an important desire to adapt and innovate. In
June 1966 he emphasized the universality of lessons learned. Encouraging the reporting
of these issues, he observed that what might appear “an insignificant or routine approach
to a problem may be a big help to another unit. Be sure your Quarterly Operations Report
contains details of lessons learned so we can consolidate and distribute them across the
board.”\textsuperscript{229} Seneff advocated even further means of relaying ideas inside the combat
theater. In an October 1966 memo he urged that “When you hit upon a tactical,

\textsuperscript{226} Department of the Army, Headquarters 1\textsuperscript{st} Aviation Brigade, “Commander’s Notes, No. 14” (20 July
1967), p. 3, Box 9, Folder 3, George P. Seneff Papers, USAMHI.
\textsuperscript{227} Ibid.
\textsuperscript{228} Ibid., 3, 4.
\textsuperscript{229} Department of the Army, Headquarters 1\textsuperscript{st} Aviation Brigade, “Commander’s Notes, Number 4” (17
June 1966), p. 5, Box 9, Folder 3, George P. Seneff Papers, USAMHI.
operational or maintenance expedient, basically any means of doing the job better, let us know so we can get the word out to others.“

Airmobility as a whole benefited from not only the charismatic personas of leaders like Seneff, but also from pilots who provided their experiences to the larger aviation community. By relying on operational reports and lessons learned, along with other means of in-country analysis, they ensured a program of continual innovations.

“What is the value of a ‘lessons learned’ system today?” the Army Digest asked in 1966. Quite simply “It acts as the ‘hot line’ to inform the Department of the Army which fundamentals must be stressed in training and what refinements in tactics, doctrine, and equipment are necessary.” The Army’s reliance on OR-LLs constituted a formalized method of cognitive thought, allowing helicopter units an official voice for their ideas and experiences.

Tell Us a War Story: Communicating Innovation through Service Journals

Another key method of relaying techniques and procedures was the circulation of periodicals among the Army. The most notable examples are the United States Army Aviation Digest (USAAD) and Army Aviation (AA). Both service journals existed for the same purpose: to inform the Army Aviation community of notable occurrences. USAAD originated from Fort Rucker, home to helicopter training, and fell under direct supervision of the school’s commandant. While an official Department of the Army publication, it contained mostly unofficial opinions from its readers. Similarly, AA relied

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230 Department of the Army, Headquarters 1st Aviation Brigade, “Commander’s Notes, Number 7” (3 October 1966), p. 8, Box 9, Folder 3, George P. Seneff Papers, USAMHI.
231 Petty, ‘Don’t Forget Nothing!’,” 33.
232 Ibid.
upon the same types for readership and as a source of contributing articles. Subscribers were members of the Army Aviation Association of American (AAAA). Not an official Department of the Army magazine, AA was still the product of individuals intimately related to, and concerned with, their subject matter. As there was no dedicated aviation branch until 1983, what appears in the both periodicals are articles and letters from across the Army.

In order to foster discussion and dissemination of the most relevant matters concerning airmobility and the Army’s use of helicopters, these magazines solicited articles from the aviation community. The majority of contributors were not professional writers. Their intention was not necessarily to inform a larger readership of the overarching details of what Army Aviation was doing. Rather, what they produced was material meant for a specific readership, informing one another of pertinent specifics regarding their employment of aircraft. Covering a myriad of topics, throughout the Vietnam-era there was a dynamic exchange of ideas about the role of the helicopter, many dealing specifically with its application in Southeast Asia.

In 1968 one contributing writer emphasized the importance of relaying battlefield experience in USAAD, as he solicited insights among Army Aviation for articles pertaining to “tactics, techniques and procedures.” He pointedly observes that the “principles of war never change, but the tactics, techniques and procedures used in the conduct of war must constantly be changed, improved and modified to retain optimum

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233 Subscribers were members of the Army Aviation Association of American (AAAA). Founded in 1957, the association was initially comprised of a small number of senior officers both in the active and retired military community.

234 The more general Army Digest, Army Times, or Army, among other service journals, usually published such overviews meant for consumption by the entirety of the service branch.

235 Poston, “Tell Us a War Story, Mac,” 17.
effectiveness."\textsuperscript{236} Previous theories formulated stateside could only carry the Army so far, he believed. Experiences in Vietnam revolutionized how helicopter units operated, and their dissemination was crucial to understanding how Army Aviation should modify their procedures to reflect those lessons. “Rarely are tactics developed in peacetime,” the writer asserts, “and none can be judged effective until they have been tested and proven in battle.”\textsuperscript{237} 

The modification of tactics was not an abrupt process, though. Rather, as he argues, it occurred continually as the composite of new experiences across multiple phases of combat, the product of trial and error, success and failure. Therefore, it was incumbent upon each pilot and every unit commander to “ensure that his trials, errors, experiences, and lessons learned are reported so that others may benefit from them and develop more effective tactics, techniques and procedures.”\textsuperscript{238} Of course, military pilots had long relied upon official training material. Indeed, field manuals, training programs, and the numerous special texts circulated widely among the aviation community. They could not be relied upon, however, to detail the entirety of all pilots’ collective knowledge. The inherent disadvantage was that the writers of these compendiums attempted to compile and prepare information from a sometimes limited amount of official reports. As the writer saw it, those personnel were not “fountains of all knowledge; they have no crystal balls; they cannot disseminate information which is not reported.”\textsuperscript{239} Crucially, he further noted, they depended on the same people who made up

\textsuperscript{236} Ibid.
\textsuperscript{237} Ibid.
\textsuperscript{238} Ibid.
\textsuperscript{239} Ibid.
the readership of *USAAD*, “the individual on the scene, to provide the much needed information.”

Likewise, *Army Aviation* requested articles from pilots and crews. In April 1966, Army Aviation director Colonel Delbert L. Bristol asserted that in order to promote doctrinal development Army Aviation members should analyze Vietnam’s many lessons. “To facilitate this study,” Bristol observed, “there is a great need for ‘writers’ within our own ranks who will record their experiences and opinions on every facet of our doctrine and techniques.” A month later, Brigadier General Robert R. Williams became Army Aviation’s director and indicated his satisfaction with the response specific to ongoing operations in Vietnam, acknowledging that “I have been terribly pleased to note the frequency and quality of the many articles now appearing in our aviation-oriented magazine on the subject of aviation in Vietnam.” The sources were mostly “our young aviators,” and Williams argued their contributions had various advantages. Not only did they act as an impulse for memories of those who had already served, but they also provided priceless advice and observations for those headed to Southeast Asia for their own tours. Granted, Williams argued, even though “many of the techniques and procedures put forth by our young stalwarts do not meet our ‘school-book’ solutions, they nevertheless point out that there are many ways to skin the proverbial cat.” Indeed, many of the articles illustrate the product of battlefield expediencies. They were not

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240 Ibid.


243 Ibid.
contrived in the clinical environment of stateside testing which stressed safety and allowed for little latitude outside of by-the-book solutions, but instead, most writers proffered ideas formulated in the confusion and tension of actual combat.

*USAAD*’s discussions of doctrine and techniques had a wider appeal than just Army pilots as well. Despite the aviation-specific material, the readership was wide enough that those throughout the Army took notice of the publication. “The DIGEST is your magazine,” the editors wrote in 1966, “and your means of obtaining and trading information Army-wide.” In September 1968 *USAAD* set a record distribution at 61,245 copies. By 1970 their monthly readership reached 500,000. Principal among those non-rated aviators who followed the *USAAD* closely were ground troops, who not only read the magazine but also provided their own ideas on the employment of helicopters. As the largest beneficiary of the aircraft, those on the ground were in a position to comment upon techniques and proffer solutions to issues about which aviators may have not been sufficiently aware. Their propositions were often unique approaches to the matter of transporting troops, utilizing helicopters for reconnaissance, or command and control. Along with the appeal the *Digest* had among ground troops, it also met wide readership in other military branches.

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247 See the “Letters” section in *USAADs* from August 1965, February 1966, April 1966, August 1966, and November 1966. In the April issue, for example, an Air Force colonel requested his unit begin receiving copies of the *Digest* so they could reduce accidents in their helicopter units. He asserts that “With the vast amount of helicopter experience in the U.S. Army, we feel that a more effective crossfeed [sic] of information would greatly benefit our accident prevention program. Your Digest serves as an excellent educational tool and is a place to start to effectively provide for this desired crossfeed [sic] of information.” Though they did not necessarily seek operational information, the inter-service communication is still noteworthy given their ongoing rivalry. COL Thomas L. Murphy, Letter to *United States Army Aviation*
Overall, without the benefit of periodicals it is doubtful Army Aviation could have communicated ideas between themselves as easily. They provided the necessary forum for individual aviators to detail not only their own experiences, but to allow for dissemination of new and potentially impactful suggestions. Army Aviation and United States Army Aviation Digest were perhaps the two best examples of an unfettered communication between combat theater and those stateside. Though what article writers offered could sometimes fall outside the common “school solution,” their contributions were no less valid for those searching for new methods of executing their assigned missions. Without their input other aviators would likely have not been as well informed and the Army’s development of helicopter warfare would doubtlessly not have been as dynamic.

Vietnam-Oriented Stateside Training

The third method of relating combat experience was through official training. The Army Aviation School curriculum was tied intimately to operations in Southeast Asia, as it was very likely most would receive orders for service there immediately upon graduation.\(^{248}\) Increasing demand for aviators beginning in 1964 strained the capabilities of the school to produce enough men to fly the much-needed helicopters. As a result, pilots received instruction which dispensed with information not pertaining to

\(^{248}\) By 1967 ninety-five percent of all Warrant Officers who completed training received orders to Vietnam upon graduating. Seneff, “The 1st Aviation Brigade: A Year in Combat!,” 20.
Vietnam.^{249} Quite literally, “if training could not be utilized during the tour in Vietnam” the pilot was likely to forget the instruction, the material was deemed superfluous, “and therefore, was considered not productive.”^{250}

The Army Aviation School was ever cognizant of the situation in Vietnam and what they should emphasize to prepare their students for an eventual tour there. As school commandant, Major General John Tolson visited Vietnam in June 1966. He commented that during this trip, his second, he was “anxious to glean any information which I could take back to the Army Aviation School to better prepare the students for their service in Vietnam.”^{251} Seneff felt that, “the training in the schools from one end to the other is pointed toward producing a man tailored for the conditions under which he is going to have to operate.”^{252} Overall, they relied upon experience in-country to keep their training curriculum relevant and to reflect the extent of battlefield knowledge gained in the combat theater.

Army rotary-wing training was a two-phase program. Students learned the rudiments of flight, known as Primary Instruction, at Fort Wolters, Texas. These sixteen weeks imparted the basic principles of flying a helicopter and required a student complete

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^{249} The Army did not abandon the concept of using helicopters and airmobility in Europe entirely during this time. However, the numbers of Army helicopters in Germany dwindled throughout the war. Though the Army Aviation School had “taken giant steps to meet the specific needs of Vietnam,” there were those who reminded the community they “must not lose sight completely of training requirements to cope with and survive on the nuclear battlefield.” Major Howard M. Williams, “Training – The Key to Airmobile Operations,” *USAAD*, Vol. 12, No. 12 (December 1966), 20. See also Captain Willard E. Bailey, “Helicopter vs. Tank,” *USAAD*, Vol. 13, No. 1 (January 1967), 32-34; Lieutenant Colonel Donald E. Mulligan, “Flying in Europe,” *USAAD*, Vol. 13, No. 3 (March 1967), 11-13; No Author, “Airmobility in Europe,” *USAAD*, Vol. 14, No. 4 (April 1968), 35.


^{251} Tolson, *Airmobility*, 110.

^{252} Ibid., 10.
their solo flight without an instructor in order to advance to the next phase. Upon completion of Primary Instruction and having earned their wings, new pilots reported to Fort Rucker, Alabama for advanced rotary wing training. It was here that students received training covering tactics and procedures. It was also where pilots first accustomed themselves to the ubiquitous Huey – likely the type of aircraft most would fly in Vietnam.

Any training which pilots received in tactics likely originated from the department most crucial to collecting and redistributing that knowledge: the Department of Tactics (DOT). Charged with presenting advanced, intermediate and basic-level instruction in both organization and tactical employment, they also evaluated and coordinated subjects relating to “proposed Army aviation material requirements, doctrine, training, organization, tactics, techniques, and procedures.”

Responsible for classroom and flight instruction, their curriculum was geared towards the one contingency of Vietnam. Indeed, the war-era Rucker did not resemble its pre-war image. By 1967 “One of the greatest changes,” noted a colonel, “is within the Department of Tactics. All instruction is Vietnam-oriented in the most realistic manner possible to parallel the situation the new aviator will encounter in Vietnam.”

Officially, the DOT’s principal focus was “RN [Republic of Vietnam] oriented and missions, procedures, and techniques as realistically toned to that area as possible.”


255 CPT Raymond R. Andrae, U.S. Army Aviation Center 1969 Annual Historical Supplement (Fort Rucker, Alabama: Office of the Adjutant General, United States Army Aviation Center), 53.
When not flying, students received classroom instruction which dealt directly with scenarios they would likely encounter in-country. Training material described potential situations in detail. The Department of Tactics undertook continual reviews of their classroom instruction to guarantee the relevancy of Vietnam-oriented information. Proposed tactical situations utilized actual maps of Vietnam, depicting the terrain and villages of certain areas as they existed in reality. Though the scenarios presented to students were fictitious and did not necessarily mirror that area’s situation at the time, they were representative of what could likely occur. Realistic portrayals such as these were not simply theoretical problems, but operations which occurred on a daily basis in Vietnam. Familiarization with the chain of command, who controlled given portions of missions, correct procedures in various situations, and potentially suitable landing zones all reflected what previous experience in-country deemed crucial knowledge.

Training emphasized familiarity with Vietnam on multiple levels. During the war, the Aviation School renamed parts of Fort Rucker, along with surrounding areas leased by the Army, to reflect the various names of Vietnamese cities and provinces. Beginning in 1966, during the last week of instruction at Rucker, students executed missions at Tac-X, the tactical training site. Attempting to familiarize further the new aviators with what they would soon be experiencing in RVN, students flew simulated

256 U.S. Army Aviation Center History Annual Supplement, 1966, 43.
259 U.S. Army Aviation Center History Annual Supplement, 1966, 42.
combat missions, living in the field throughout the week. The emphasis during this period was on combat realism and during the fourteen day exercise students flew typical Vietnam-type missions without instructors on-board.

This last phase was “constantly changing to keep abreast of the needs. Realism and practicality are keynotes, and reports from commanders in Vietnam indicate the school has been able to maintain the flexibility needed.” Tolson intended the last week to make up for the lack of unit training, as most pilots deployed as individuals rather than in a unit. The emphasis was on incorporating “as much combat realism as possible to facilitate the essential transformation from ‘student’ to ‘pilot’. Above all, it was an attempt to offer students a greater understanding of what the near future had in store for them. Indeed, much of what the instructors covered throughout the final week were methods and techniques which would be of daily use in Vietnam. Pilots also related techniques stateside to other aviators through personal instruction. Many who completed their year-long tour in Vietnam rotated to Fort Rucker as instructors, bringing with them the newest and most relevant information about tactics and procedures. Already by early 1966 Brigadier General Seneff noted that more than 500 veterans of RVN had become faculty members at the aviation schools. Upon arrival they underwent debriefing “in an attempt to glean information with which to improve its instruction.” Seneff encouraged those brigade members headed to Fort Rucker to “strive to share their experience here

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260 Army Digest Staff, “The Only Way to Go,” 10.
262 Tolson, Airmobility, 111.
263 Seneff, “Things are on the Move!,” 10.
264 Headquarters, 1st Aviation Brigade, “Commander’s Notes, Number 4,” (17 June 1966), 1; Tolson, Airmobility, 110, 111.
with the instructors and students at the Aviation School."²⁶⁵ Aviation director Brigadier General Williams felt comfort knowing that with "the wealth of experience available in the Vietnam returnees at our Aviation Schools, I know that our recent and future graduates will be the best qualified for Vietnam duty that time and experience can give."²⁶⁶

William Meacham, a pilot with the 101st Aviation Battalion, asserts that most instructor pilots had already served at least one tour in Southeast Asia, and "were dedicated and professional aviators."²⁶⁷ Veterans’ knowledge of what was important in combat could serve the student well. Meacham believed it was advantageous if the instructor departed from the written lesson plan and taught techniques not officially sanctioned. This deviation from the "school solution" was beneficial for most students who were looking to gain as much knowledge about their impending tour in Vietnam as possible. What worked in the eyes of the safety-conscience school could often differ from what battlefield expediencies had taught was a more viable approach. "In combat," Meacham argues, "there was no such thing as a 'school solution'."²⁶⁸

Lower-grade pilots were not the only recipients of the Army Aviation's lesson learned or the benefactors of personal instruction from Vietnam veterans. By the beginning of 1966 the Army decided senior field grade aviators bound for Vietnam needed proper orientation in the procedures of ongoing operations. From this determination came the Army Aviation Commanders Vietnam Orientation Course

²⁶⁵ Headquarters, 1st Aviation Brigade, “Commander’s Notes, Number 4,” (17 June 1966), 1
²⁶⁷ Meacham, Lest We Forget, 17.
²⁶⁸ Ibid., 19.
The first class began in November 1966 at Fort Rucker. Course participants were rated aviators in an aviation command or staff position bound for Vietnam. AACVOC reflected the most current information coming out of Southeast Asia, combining both the official lessons learned gleaned via official channels, and the experiences of returned veterans. Whereas the Army Aviation School intended most of their instruction to train individual aviators for their impending tours in Vietnam, the Orientation Course dealt specifically with the planning and support aspects of airmobile operations. Just as the young pilots operating in Vietnam needed to be well versed in the structure of Army operations, their commanders required an equal or better understanding of these aspects.

Overall, the Army Aviation Schools at Fort Wolters, Fort Rucker, and other ancillary facilities were directly linked to the war in Vietnam. The growing importance of helicopters to the Army’s efforts in Southeast Asia meant that a focused, accelerated, and efficient program of instruction benefited students bound for the combat zone. A close relationship between aviation units in-country and stateside training institutions illustrated not only the Army’s realization that the past informed the future, but that efficiency and safety could best be taught through hard-learned lessons. Through a specific Vietnam-oriented school curriculum, the wisdom offered by RVN returnees, and orientation of command aviation personnel from experienced pilots, the Army insured that battlefield knowledge would have a larger doctrine-serving purpose.

270 *U.S. Army Aviation Center History Annual Supplement, 1966*, 34, 43.
Yet, it might have been unrealistic to think the Army Aviation School could prepare every student to operate in Vietnam immediately upon their arrival. As one Department of Tactics instructor noted in 1969, it was perhaps impossible to meet such ambitious combat readiness. The schools could offer a Vietnam-oriented training curriculum, one that dealt with realism and put a premium on the current situation in the combat theater, but not every student would be immediately operation-ready. He correctly notes that most units in Vietnam fought their own war with specific techniques to fulfill certain mission objectives. “Therefore,” he asserts, “‘immediate employment’ would demand as many flight schools as there are aviation units in Vietnam.”

That being an unrealistic expectation, “the Army compromises by averaging out these various techniques and methods and comes up with a training program which they hope will make the new aviator qualified to transition into the various aviation units in Vietnam in a minimum amount of time.” Though their training was as specific as generality would allow, the individual aviator relied a great deal on in-country indoctrination to refine the methods and techniques he would employ throughout his tour.

**Learning on the Job: In-Country Orientation**

The final method of relating experience in helicopter warfare was through actual combat instruction. In the early years of large-scale American presence in Vietnam, entire units such as the 1st Cavalry Division arrived in-country requiring orientation to become operational quickly. Units which had operated in Southeast Asia provided a training program by allowing the new pilots to fly as copilots during combat missions, offering

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271 Captain Roger P. Kalinger, Letter to *United States Army Aviation Digest, USAAD*, Vol. 15, No. 2 (February 1969), 1

272 Ibid.
the somewhat insulated environment of flying with veterans. As the war progressed, however, units remained in-country and a flow of individual aviators rotated in and out. The majority of helicopter pilots arrived in Southeast Asia this way, as individual replacements. This practice of rotation required a method of receiving and orientating new pilots quickly.

Upon arriving at their unit in Vietnam, replacements underwent a calculated period of in-country training as copilots. Flying alongside veterans as a copilot, or “peter pilot”, for a period of months allowed them to refine their methods. The “aircraft commander” – a term used to denote a combat veteran, usually with three or more months in Vietnam and the primary pilot of a helicopter – was intended to impart tactical and general wisdom regarding operations and other aspects of sorties. What resulted were pilot-to-pilot tutorials designed to confer the skills which best prepared an aviator to complete missions not only successfully, but to keep themselves and their crews alive. Such communication of insight was crucial for the mostly inexperienced pilots deployed to RVN for the first time.

Armed only with simulated combat flying during flight school, the realities of Vietnam were far removed from stateside preparation. One assault helicopter pilot asserted that “Vietnam is the school after school.” James Joyce joined the 227th Assault Helicopter Battalion in 1966 and relates that his mentor “had me doing things with the Huey that I had no idea I, or the Huey, could do.” Indeed, inexperience was a hazard for

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274 Chuck Gross, Rattler One-Seven: A Vietnam Helicopter Pilot’s War Story (Denton, TX: University of North Texas Press, 2006), 27.
275 Grant, Wings of the Eagle, 295.
all, and Joyce was fortunate that through exposure “to intensive instruction Captain Paul Silberberger made me a Huey pilot.” 277 25th Aviation Battalion pilot Joseph Finch, noted that upon deploying to Vietnam “I was soon to find out Flight School barely qualified me to fly in a safe area. Learning the skills I would need to survive a year in Vietnam had just begun.” 278 Without assistance offered by experienced pilots – even fundamental instruction – it is likely new aviators would not have adapted to combat as quickly.

Most importantly, veterans could teach lessons with regard to their particular area of operation. The lack of standardized techniques across Vietnam obliged a large degree of localized orientation. Variables in terrain and operational methods meant there was an inherent difficulty in interchanging pilots or units from one area to the next. 279 Few people knew the intricacies of daily operations in particular areas better than the pilots who developed specialized adjustments which worked best there. No matter their rank or amount of flight experience, all new pilots had to undergo this period of transition. Such instruction paid large dividends when it was time for the recipients themselves to pass down the skills they learned only months prior.

Some methods could vary from aviator to aviator depending on their own abilities and the instructions they had received from their own mentors. 280 As one pilot relates, those new in-country had to absorb large amounts of information from multiple mentors. Each brought their own prejudices and beliefs about what worked best in given situations, but he warns that “Because one man got burned during a certain maneuver does not rule

279 Tolson, Airmobility, 102.
280 Meacham, Lest We Forget, 52.
out the use of that maneuver forever.” Conversely, he argues, just because something proved successful at one point did not qualify that procedure as the only correct method. Stereotyped thinking was inherently dangerous in combat situations with their many variables. Ultimately, the pilot advises that “A new aviator will have to listen to a lot of advice based on a lot of experience. He should listen – then adopt that which makes most sense to him.” Training and orientation for those beginning their tours was often an intense period of instruction, requiring them to assimilate the styles and techniques of multiple aircraft commanders until they devised their own specific procedures.

Time constraints and a general belief that combat was the ultimate training ground meant most units openly endorsed on the job training (OJT). Within months of their formation, the 1st Aviation Brigade set up a formalized method of training, expecting their pilots to know the capabilities and procedures of the unit’s aircraft and then conducting additional mentoring to solve any deficiencies. At that time they flew as a copilot for up to twenty-five flight hours during administrative missions. Only then were they allowed to fly as a copilot during combat missions, hopefully exhibiting enough proficiency that they could eventually be recommended to become an aircraft commander. As Seneff saw it, the notable benefit of this system was that it “provides us with sound, and well qualified aviators to fly our combat missions. This approach does, in fact, combine training with mission accomplishment, and does ensure that our best qualified aviators are filling the right [pilot’s] seat.”

Progressively allowing greater

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282 Ibid.
283 Department of the Army, Headquarters USA Aviation Brigade (Provisional), “Commander’s Notes, Number 3” (13 May 1966), p. 1, Aviation Box 9, Folder 3, George P. Seneff Papers, USAMHI.
responsibility solved the requirement of training and indoctrination while simultaneously allowing pilots to become comfortable with their own level of proficiency.

While the Army’s aviation school provided the basic skills necessary, aviators still required in-country experience before they were ready to become aircraft commanders. Without the advanced training received from veterans and the experience of flying combat missions, Army Aviation could not have so capably imparted newly devised tactics or procedures. Localized orientation was key to maintaining and passing down the combat experience of others – much of which might have never made it into the official field manuals, been part of the school curriculum, or made into the pages of service periodicals.

**Keeping the Wolf from the Door: Rotation and the Pilot Vacuum**

Army Aviation’s varied methods of communicating information was ever-more important because of the large amount of new pilots they had to field. As American troop-levels increased in Vietnam and U.S. forces undertook larger operations, assault helicopters took on a more pronounced role. Army Aviation was initially not prepared to provide so many aircraft and pilots, and only through marked growth of the training programs and organization could they expect to answer the call. Few among them viewed this as a negative turn of events, but the demand overwhelmed their ranks, necessitating sacrifices from pilots and marking a period of dramatic change. Though the war necessitated continual expansions of training outputs, the year-long deployment cycle continued to become a central issue for Army Aviation.

The 1st Cavalry Division was the first large aviation unit to feel the effects of the year-long tour of duty system. Once the pride of Army Aviation, their exceptional
performance throughout 1965 was due largely to the experience which pilots carried over from stateside training. Indeed, most of the aviators initially assigned to the 1st Cav were veterans of the 11th Air Assault tests, comfortable with the tactics and well-acquainted with their fellow pilots. In late 1966 their immense amount of experience quickly dissipated as pilots rotated out of Vietnam. A nearly mass exodus due to their simultaneous arrival in-country a year earlier created an experience gap. Without casting aspersions of any sort on the new personnel,” Retired General Hamilton Howze averred, “the division, still a fine one, has thus been caused to be closer in experience and training in airmobility to other forces in Vietnam.” Turnover further hurt the Army in these early years because so few initially had much experience with airmobility. Personnel who rotated through Vietnam gained knowledge about airmobile operations mostly through combat exposure, but that theater was the sole provider of certain lessons.

While the Army struggled to provide units in-country with replacements, those returning from Vietnam likely faced a rotation back to RVN. By 1966 the Army realized the conclusive need for multiple tours. Then Director of Army Aviation, Colonel Delbert L. Bristol, observed that their role had become so important “that many of our Aviation personnel, particularly Army Aviators, will of necessity have to repeat tours in that area in order to insure that our U.S. combat operations are properly supported.”

284 Even though the Department of the Army authorized the 1st Cavalry to either send some personnel home one month early or extend for fifteen days “to avoid the August ‘hump’,” the action only delayed the inevitable drain of experienced pilots. Department of the Army, Headquarters, 1st Aviation Brigade, “Commander’s Notes, Number 5” (19 July 1966), p. 4, Aviation Box 9, Folder 3, George P. Seneff Papers, USAMHI.


that year pilots could expect only nine months to a year out of Vietnam before a second deployment there; throughout the war the Army tried to maintain a minimum of twelve months between tours.287 “Still,” Brigadier General Williams quipped, “a fourth grader can tell you very quickly that if you have 10,000 aviators and 5,000 are in Vietnam, then one year in and one year out is the best you can do.”288 Vietnam took on priority status for the Army’s worldwide inventory levels. The funnel of pilots to Vietnam downsized the personnel levels elsewhere in the world.289 The rate at which the Army demanded additional pilots quickly outstripped the training schools’ ability to provide them. Consequently, they looked towards their rated-aviators to take up the slack. As a means of providing personnel, the Department of the Army temporarily eliminated ground duty tours for rated pilots under the rank of Lieutenant Colonel.

Career-minded aviators felt the pressure of the situation after suspension of their attendance at branch career schools. Furthermore, some aviators found their retirements, non-active duty requests, and resignations denied.290 Student petitions for removal from the aviation program met with almost universal denial from the school, unless in proven cases involving “cowardice, refusal to fly, fear of flying, and flagrant violation of flying

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289 Colonel John W. Marr, “Aviator Personnel Planning,” Army Aviation, Vol. 16, No. 11 (November 1967), 26. During the war, Army Aviation’s presence in Europe gradually shrank. Vietnam’s endless need for more pilots forced a decreased aviator strength in Europe to a paltry 250. Likewise, numbers in Korea shrank to only thirty four pilots. Some commands throughout the world operated at only ten percent of their authorized numbers. Tolson, Airmobility, 110; Redmond, “Aviator Support to a Counterinsurgency War,” 10.
290 Ibid., 13, 14. It was not until December 1970 that the Department of the Army began granting aviation Warrant Officers release from active duty upon request. CPT. Jerry G. Cooper, USAAVNC, USAAVNS 1971 Historical Supplement, Directorate of Plans, Training and Security, United States Army Aviation Center, Fort Rucker, Alabama, 138.
Demand for replacements also modified short-tour deployment restrictions. Pilots could receive orders to Vietnam as individual replacements with as little as six months left of obligated service in the Army, or to a unit with only three months remaining. Since all qualified pilots from the grade of major on down filled cockpit positions, it stocked units with unusually high-ranking aviators. Out of necessity they put their careers on hold, all the while feeling as if they were “second class citizens,” and harboring doubts about the future of their careers.

Such demands on pilots and their families caused a detrimental effect on the retention of career aviators. The Army understood that their reliance upon experienced pilots put added stress on marriages and careers, but quick alternatives were few and far between. Brigadier General Williams appealed to the aviation community in mid-1966, asking “each of you to shoulder the burden that has fallen your lot and perform your duties in the best manner possible. Talk to your families of the necessity for sacrifice in this critical period of our history and stay with the aviation program and the Army if you possibly can.”

During his tenure as Director of Army Aviation, Colonel Bristol realized that due to long separation from their loved ones, “hardships are ahead for many of our aviation families.” Still, he assured them that “we are and will continue to take

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292 Ibid.
293 Ibid.
294 Tolson, Airmobility, 110.
295 “A Reader Suggests Several Direct and Indirect Steps to Alleviate the Army Aviator Shortage,” Army Aviation, Vol. 15, No. 11 (November 20, 1966), 30.
all measures possible to minimize the hardships involved.”\textsuperscript{298} Along with family concerns, officers attempting to continue along the conventional career track worried that multiple tours in RVN would necessitate their absence from branch schooling.

Their concern was certainly valid, enough so that in 1966 the Army’s Chief of Staff ordered Major General Delk Oden, Director of Officer Personnel, to draft a letter for inclusion in the personnel file of every aviator under the grade of Lieutenant Colonel.\textsuperscript{299} Oden’s letter explained to those who might consider the individual for promotion or schooling why that person may have not have had the customarily required assignments or training. The Army hoped the letter would direct “each evaluating individual to recognize the turbulence in aviator careers, and the reasons for creating this turbulence . . .”.\textsuperscript{300}

In personal correspondence with Brigadier General Seneff in November 1966, Oden reflected on the situation: “With the present replacement cycle it has become almost impossible to manage our aviators’ careers. We are constantly searching for some way to improve this situation to prevent our commissioned aviators from falling behind their non-rated contemporaries careerwise [sic].”\textsuperscript{301} The strain felt by Army Aviation was

\textsuperscript{298} Ibid.

\textsuperscript{299} Army aviators felt the career turbulence in the year previous as well, causing Seneff as Director of Army Aviation in August 1965, to recommend the letter which Major General Oden eventually drafted. Seneff urged “commanders at all levels to incorporate explanatory remarks in the efficiency reports of officers . . . placed in a damaging situation by the current exigencies of the service. In some cases, more than an explanation in the efficiency report might be indicated, such as a special report or a letter to go into the officer’s file. The fine people that you have working for you deserve this consideration.” Brigadier General George P. Seneff, Jr. “Your Army Career: Current Personnel Turbulence,” \textit{Army Aviation}, Vol. 14, No. 8 (August 1965), 13.


\textsuperscript{301} Personal letter from Major General Delk M. Oden to Brigadier General G.P. Seneff, Jr. (16 November 1966), Box 2, Folder 3, George P. Seneff Papers, USAMHI.
of concern to many, and as the commanding officer of the 1st Aviation Brigade, Seneff knew well the demands of Vietnam and the likelihood of a continued buildup, further complicating the matter. He replied that the “aviator career problem is near and dear to all of us. We can’t keep the wolf from the door indefinitely, and I’m sure our youngsters are really going to feel the pinch in this area in the next year – even worse than the past.”

His solution was one which appealed to most, but did not gain traction throughout the Vietnam War. “Do you suppose it would be the appropriate time,” Seneff asked, “to again bring up the subject of a separate Aviation Branch?” Some considered such a suggestion to be a valid reaction. The aviator attempting to control his career could often feel caught between two powerful forces: Army Aviation demanding his continued and comprehensive role as a pilot, and fulfilling duties corresponding to his primary branch, be they schooling or ground duty deemed to be essential for a “professional, well rounded, experienced officer.” As one pilot asked rhetorically in 1966, “Must the Army Aviator continue to split his capabilities? Can he devote 100 percent of his time to aviation for extended periods – perhaps three years or more – and then be expected to be and to remain an effective branch-qualified officer?” Attempts to better the state of affairs, to repair the detriments created by the growing need for helicopter pilots, still provided little consolation for those facing multiple tours in Vietnam.

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302 Personal letter from Brigadier General G.P. Seneff, Jr. to Major General Delk M. Oden (7 December 1966), Box 2, Folder 3, George P. Seneff Papers, USAMHI.
303 Ibid.
305 Ibid.
Despite attempts to convince aviators that their career possibilities outweighed the strenuous demands placed upon them, morale suffered. Quite realistically the Army claimed that airmobility would continue growing in size and emphasis. Regardless of the career turbulence, it offered them the ability to stand out amongst their peers. Those who exhibited “practical knowledge in the many facets of air mobility, who’s blessed with common sense and an attitude of wanting to really perform and get ahead, cannot be held down.” Although it was true airmobility was growing at a rapid pace, it did little to lessen the sacrifices demanded of the pilot corps. With morale sinking noticeably by early 1966, attempts at buoying confidence in their career choice may have seemed like hollow reassurance. Being a part of Army Aviation was quickly becoming a fate to be avoided.

Seneff wrote in late 1965 that through his conversations with numerous young aviators he was made aware of the dispirited atmosphere among a number of pilots, causing many to leave the Army. “People simply get fed up with the TDY [temporary duty], the tours in undesirable areas, and the hours put in on proving new concepts in airmobile units.” The reaction among most, Seneff continued, was to ask what they were getting in return for their efforts. He argued the answer was simple, if not obvious. Among the more lofty outcomes, they were “making the name Army Aviator a respected term both in and out of the service.” Additionally, they were assisting their country in a time of need, along with learning a specific skill set to which others in the Army did not have access. In the purely military realm, though, he estimated that they were “helping to

306 Ibid.
308 Ibid.
set a pattern for the future that could considerably change the organization of the United States Army and the nature of ground combat.\textsuperscript{309} While the majority of young pilots may not have viewed their efforts in such a grandiloquent manner, any affirmation that their struggles were not going overlooked went a long way.

**Warrant Officers**

Measures intended to salvage a pilot’s career at first only extended to commissioned officers. Warrant officers, an essential element of Army Aviation, often felt the most maligned. They received no special letter in their file explaining the extenuating circumstances of Vietnam, nor did they earn the same pay or career benefits as their commissioned comrades. On the issue of retention, warrant officers simply felt less compelled to extend their careers in the Army, as it mostly guaranteed extensive work and sacrifice. The Army’s intention for the warrant officer to be a “professional aviator, one who devotes all his time to aviation” meant a great deal of Vietnam’s stress fell upon them. By 1967 ninety-eight percent of warrant officers were either in Vietnam at the time or had already served a tour there.\textsuperscript{310} Though the rank appealed to some – mainly younger pilots who wished only to fly rather than cultivate a career with the attendant responsibilities, training, and expectations – the traditional warrant officers could sometimes feel slighted by such divergent career paths, and a lack of opportunities regardless of the comparable work load and performance.

One pilot noted that the Army relied almost entirely upon warrants to instruct in the aviation schools, to instill the type of professional abilities and attitudes expected of

\textsuperscript{309} Ibid.

the grade. “This is the only profession I’m aware of,” he wrote, “in which the teachers make less professional pay (flight pay) than their students (commissioned types).” A sense of alienation, of second citizenship, could also mar any feelings of cohesion, because, as in the writer’s own experience, “I begin to wonder about my professional status when the Colonel begins his little talks not with a greeting to his aviators, but rather to ‘officers and warrant officers.’”

The Army’s dependence on the warrant officer was certainly never in question. Already by 1962 Army Aviation was made aware of the necessity of warrant officers by the Howze Board, which called for a one to one ratio of warrant officers to commissioned officers by 1967. Intended solely as pilots, their careers existed distinct from commissioned officers in that they were not burdened by matters of leadership. The warrant was a “skilled technician who is provided to fill those positions above the enlisted level which are too specialized in scope to permit the effective development and continued utilization of a broadly trained, branch-qualified commissioned officer,” not a leader of men. As Major General Williams explained it, in Army Aviation “the warrant officer is the ‘Master Craftsman’ who will spend a full military career flying aircraft. On the other hand, the commissioned aviator is assigned to positions that require the exercise

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311 In 1967, eighty percent of the warrant officers who returned from Vietnam received assignments to become instructor pilots. Seneff, “The 1st Aviation Brigade: A Year in Combat!,” 20.
313 Ibid.
of command or require knowledge and decisions regarding tactical or technical operations for which only the commissioned officer is trained.”

For those warrant officers concerned about their careers, there were attempts to placate them. Beginning in November 1967 the Army reduced the time in service required for promotion from warrant officer to chief warrant officer from eighteen to twelve months. Still, not all warrant officers wished to make a career of the Army. Any qualms they may have had about the effect of Vietnam upon a potential career were of little consequence, considering their main motivation was to fly. Without this enthusiasm to fill a limited role, the Army was likely not to meet the personnel quota. In 1966 the Army expanded their Warrant Officer Candidate program, hoping to entice men from the regular army and civilians to become pilots. “Aviators are needed,” the Army Digest declared. “Never before in Army history has air mobility been as important or as extensive as it is in the Republic of Vietnam, where our aviators are daily providing vital support to our foot soldiers.” The training required four weeks of “officer candidate school-type instruction,” whereupon the newly minted warrant officers attended the normalized thirty-two week aviation program at Forts Wolters and Rucker.

316 Ibid., 14.
317 “CWO Promotions Pushed,” USAAD, Vol. 14, No. 1 (January 1968), 9. Presently there are five warrant officer grades: Warrant Officer (WO1), Chief Warrant Officer 2 (CW2), Chief Warrant Officer 3 (CW3), Chief Warrant Officer 4 (CW4), Chief Warrant Officer 5 (CW5). During Vietnam there were only four warrant officer grades, however. The Warrant Officer Career Development Program proposed the CW5 grade in 1966, but was not formally adopted until 1985. WO1s often endured the sobriquet, “wobbly one,” due to their relative youth, limited time in the service, and lack of experience. Despite their junior grade, however, the Army relied heavily upon the young warrants. Halfway through 1966 WO1s comprised fifty-two percent of the Army’s active duty warrant officers. Thirty-two percent wore the rank of WO2, fourteen percent were CW3s, and only two percent CW4s. Seneff, “The 1st Aviation Brigade: A Year in Combat!,” 20.
318 Sergeant First Class Florence I. Dunn, “Your Aircraft is Waiting,” Army Digest, Vol. 21, No. 12 (December 1966), 23.
319 Ibid., 24.
The seemingly obvious solution to remedy the lack of pilots was simply to increase class sizes coming through the Army’s aviation schools. In June 1966 the Department of the Army predicted that future battlefield needs required over 14,000 pilots by year’s end. Compared to the projected strength of only 9,700, the serious shortfall revealed a dire situation. Projections into and throughout 1967 recorded the requirement at around 21,500 pilots while the Army would have only 12,800 available.320 Despite the strides Army Aviation made throughout the early 1960s in capabilities and doctrine, without the adequate numbers of aviators those in charge believed that airmobility could possibly falter in Vietnam. Secretary of Defense McNamara authorized the Army to increase their overall pilot training output from 120 a month to 425.321 Even if the aviation schools were able to quickly satisfy such a marked increase in output, they would not see the benefits of larger class sizes soon – it required a “lead time” of fifteen to eighteen months to “recruit, train and deploy aviators” after authorizing increased training outputs.322

Over the course of fiscal year 1966, Fort Rucker’s class sizes ballooned from 96 a month to 375.323 Yet, before the school could meet the goal of 425 students a month the demand increased again. In December 1966 the Army approved yet another training increase to 625 pilots a month, requiring an expansion of the facilities at Fort Stewart,

320 Ibid.; Tolson, Airmobility, 110.
323 As the Army struggled to produce enough rated aviators, they also had difficulty providing enough training personnel to handle the larger class sizes. Throughout 1966 the Department of Rotary Wing Training at Fort Rucker was consistently undermanned in this regard. U.S. Army Aviation Center History Supplement, 1966, 49.
Georgia, a number not hit until mid-1968. Fort Rucker continued to meet the demand for more pilots in 1968, graduating over 4,500 new Army aviators, and qualifying or transitioning another 1,649 into rotary wing aircraft.

With the large numbers of new aviators entering the ranks, it was even more important the Army maintained the methods of communicating techniques and procedures. Training prepared them for the rudiments of combat flying, but as some had differentiated, there needed to be a transition from student to pilot. To keep up with the incessant need for more pilots the Army expanded the Primary Helicopter Center at Fort Wolters, Texas in 1968. Designed solely in response to Vietnam and the personnel issue, the 160 acre installation, Dempsey Army Heliport, was part of a $10 million expansion program at Wolters in order to increase the primary phase’s output by fifty percent.

Demand for more aviators also meant the Army cut down on the amount of time between graduation and assignment to an operational unit in Vietnam. There would be no chance to refine what the newly-graduated pilot learned throughout the previous months. The training they received at Forts Wolters and Rucker therefore had to provide them...
with the tools necessary to operate in the combat zone as soon as possible.

Implementation of a new system in July 1965 divided helicopter flight training into two equal blocks between the two training facilities, both phases taking place over sixteen weeks each.\textsuperscript{328} The previous program required a 12/20 split – twelve weeks at Primary Helicopter School at Fort Wolters and twenty at Fort Rucker – but did not adequately prepare pilots to fly immediately in Vietnam. Unique demands required the Army implement a system unlike any other service branch. Indeed, none but the Army sent their graduates directly to the combat theater without additional specialized training.

To an extent the Army Aviation training schools could only provide so many rated aviators per training cycle while still imparting upon them the necessary skills to survive and operate effectively in combat. Airmobility, merely a controversial concept one decade before, was maturing into an essential asset for the U.S. Army, one who had become reliant, if not expectant, on the enhanced mobility. Yet, despite this increasing need for helicopters, Army Aviation was not fully prepared to meet the demand. Although high-ranking officers such as Hamilton Howze had years before predicted the need for more personnel, the suggested levels never met the realistic ones.

**Conclusion**

The communication and dissemination of tactical and procedural innovations during the Vietnam War was crucial for varied reasons, first being the relative youth of Army Aviation. Despite much pre-Vietnam theorizing regarding the use of airmobility, Vietnam was a different environment than what their tests had focused upon. The Army could have relied solely upon their prior studies and tests to guide them through Vietnam.

– the aviation community might have simply argued their doctrine needed no additional refinement. Instead, they approached their role and mission with somewhat of an open mind, understanding that the lack of a historical precedent of helicopters in counterinsurgency required flexibility. Combat had proven some prior ideas as sound, but others in need of modification, and that needed a mechanism to properly relay these insights. Airmobility, therefore, relied heavily upon young pilots to determine what methods would act as its framework.

Additionally, the Army needed a means to collect and relay battlefield knowledge because of the large amount of pilots they had to train. An increased demand for aviators meant relative neophytes to aviation received less than a year of training before flying combat missions. Unless the Army had a means of collecting important battlefield knowledge and programming it into their curriculum, the new pilot would be a liability. Unlike other service branches where potential aviators underwent rigorous and extensive training before qualifying to fly in combat, the overwhelming need for helicopters meant there would be no such luxury for the rotary-wing pilot. Twelve month tours in Vietnam also required the helicopter unit to make their new aviators operationally capable in the least amount of time as possible. Thus, in-country orientation alongside veteran pilots became a key period of apprenticeship before becoming an aircraft commander.

During the early- to mid-1960s Army Aviation was just getting by. Fearing a crippling lack of personnel for Vietnam, they attempted to retain as many pilots as they could. The sacrifices demanded of helicopter pilots put stress upon families and professional ambitions, forcing an unsettling rate of aviators leaving the service. Not only did they lose able-bodied men, but more worrisome, they lost the experience these pilots
took with them. The Army was not immediately willing, or able, to allow their pilots time away from aviation, let alone indulge those concerned about time-intensive career development. Keeping the “wolf from the door” as George Seneff put it, placed a tremendous strain on the capabilities of Army Aviation to supply the required number of pilots while simultaneously looking after their career development. Yet, to their credit, the Army did make attempts to look after the pilots from whom they asked so much. As a result, they committed to reforms, fighting both to alleviate constraints upon officers’ schooling and assignments, and undertaking a concerted review in 1966 of the warrant officer career outlook. A healthy campaign of platitudes advocating the benefits of an exciting future for Army Aviation may not have completely solved the morale issue, but there was some truth to what they argued. Helicopter crews were pushing the boundaries of modern warfare, and along the way they were refining skill sets not commonly prevalent. For the young pilot who just wanted to fly, though, all the encouragement they needed was the promise of excitement and challenge. Vietnam, to be sure, offered ample amounts of each.

Army Aviation’s relative youth during the Vietnam War could have possibly proven detrimental. Unlike other branches who entered the war with concrete doctrinal perspective born from decades of prior theorizing and experience, the booming aviation program underwent rapid testing in combat. Despite this seeming handicap, they met the challenge of an insurgency with an embryonic heli-borne concept. Aiding that success was their ability to communicate combat experience through multiple channels. This allowed not only a free exchange of ideas to better tactics and procedures, but ensured that pilots felt their contributions were valued. The history of assault helicopters in
Vietnam is a study in doctrinal development through combat experience. It illustrates how militaries learn, disseminate, and react to warfare when employing a developing capability. Without official reports, service journals, selective school curriculum, and in-country training, it is doubtful the Army’s assault helicopter units could have innovated as quickly as they did. Their ability to collect and synthesize theories, insights, and experience meant that, just as the Army Aviation motto attests, they were above the best.
CONCLUSION

If one looks no further than the extant literature, it would be easy to believe that the United States Army’s use of assault helicopters during the Vietnam War saw their only real test during the Battle of Ia Drang, and from then on enjoyed formulaic employment. Indeed, the historical record seemingly does not appreciate the effort put forth by Army Aviation after 1965, other than developments in attack helicopter design and employment. The experience of the 1st Cavalry Division in November of that year was only the start of a continual process of innovation and refinements of tactics and procedures amongst assault helicopter units. The formation of the 1st Aviation Brigade in 1966 signaled the Army’s growing dependence on rotary wing aircraft. Non-organic helicopters augmented the already attached divisional units, giving all infantry commands a degree of mobility which previously only the airmobile division enjoyed.

These actions were not the sudden outcome of an unforeseen requirement, however. To understand how far Army Aviation came in a short time one must appreciate that the previous fifteen years set the stage for the eventual helicopter-dependent Army. Forward-thinking individuals had for some time envisioned what came to fruition in Southeast Asia. Even though the effort to create a capable aviation force at the behest of Secretary of Defense Robert S. McNamara related to a European battlefield, it created a foundation for the heli-borne concept employed in the brush-fire war of Vietnam.
A perceived emergency need twice resulted in the quick arrival of helicopter forces in Vietnam – in 1961 and again in 1965. An eventually ingrained usefulness kept them there. When called upon to render assistance, the Army turned to helicopters to provide crucial mobility. The ramifications of that decision impacted Army Aviation for the rest of the war, and even beyond. For the division’s seeming victory in November 1965 convinced decision makers in the Pentagon and elsewhere that reliance on helicopters could lead to the successful prosecution of the growing war. In that way, Ia Drang is only the beginning of the story. It merely allowed for the developments which came later, for the meteoric growth of Army Aviation.329

The increase in rotary-wing aircraft usage gave rise to the careers of those who championed airmobility from its early days. Proponents of the concept took important and influential positions during the war and after. Widespread use of helicopters propelled visionaries like Hamilton H. Howze, Harry W.O. Kinnard, Delk M. Oden, George P. Seneff, Jr., Robert M. Williams, George W. Putnam, Jr., Allen M. Burdett, Jr., James H. Merryman, and John J. Tolson, among others, to positions of considerable influence as they guided the Army’s aviation program through a period of extraordinary transition. Their leadership guarantees mention in any extensive study of the topic, as their influence on airmobility put an indelible mark on organization, training, and doctrine.

In a little over a decade the Army’s helicopter force emerged from interservice struggles with the Air Force to become an acknowledged and appreciated organization. One of the positives which arose from a war laden with negatives was the bolstering

effect it had upon Army Aviation. In Vietnam those associated with helicopters could finally boast that the Army depended upon them, that they had become an essential element of the modern military. The strategy of attrition around which the United States military based their entire approach in Southeast Asia relied as heavily upon the mobility of helicopters as any other technological asset. That is not to say that they constituted the \textit{sine qua non} of the entire American effort in the theater, but their contributions cannot be overvalued. Assault helicopter units carried troops to and from the battlefield, provided crucial logistical support, and fulfilled virtually any other sundry task which required the movement of personnel and material.

Though some will continue to argue that the Army was foolish to fight an insurgency in the manner they did, their use of helicopters as a counterinsurgent tool was largely a product of the Cold War. The United States military found themselves forced to “anticipate the requirement to fight anywhere,” as Hamilton Howze argued.\textsuperscript{330} “No other nation,” he believed, “not even the USSR, faces so broad a requirement for flexibility of application.”\textsuperscript{331} As a result, the Army’s structure did not correspond to fighting in any one particular environment, and as such it was “imperfectly organized to cope with any of them.”\textsuperscript{332} Historian Ingo Trauschweizer argues that the Cold War Army, rather than focusing on many potential areas of conflict, committed to one. Realizing the

\textsuperscript{330} Hamilton Howze Speech at AUSA – Alamo Chapter, 12-1-1966, “The War in Vietnam,” p. 3, Folder 1, Box 9, Howze-Hawkins Family Papers, USAMHI.

\textsuperscript{331} Ibid.

\textsuperscript{332} Ibid., 4.
impracticality of general-purpose forces, he asserts, the Army primarily aimed to prepare for a European war.333

Army Aviation found themselves providing an all-contingency posture throughout their formative years in the 1950s and early 1960s with a European-designed force. Nothing illustrated it better than when their helicopters deployed in 1961 against guerrillas, while concurrent stateside airmobility tests focused extensively for European war. This seeming contradiction in purpose was illustrative of a Cold War necessity, which was to an extent a Faustian bargain. It meant chancing that Europe would remain the most important threat, at the cost of not having a dedicated organization to respond elsewhere. Administration officials believed that military forces meant to fight a sophisticated enemy could easily take on one less complex.334 Thus, Army helicopters became among the first American units to arrive in Southeast Asia. In the main, Army Aviation was flexible enough, especially at this early stage, to willingly conform to counterinsurgency. It was a prudent decision, as there were few actual alternatives.

As the war progressed, demands for men and equipment overstressed the capabilities of their providers. Army rotary wing pilot training underwent radical expansions to supply enough aviators quickly. Along with the necessary men, the effort also required boosts in the numbers of equipment. Bell, the manufacturer of the aircraft upon which assault helicopter units relied most, the UH-1, only produced thirty per month during mid-1964. By 1967, in direct response to the Army’s needs in Southeast


334 Ibid., 166, 167.
Asia, they raised their production to 150 per month. Ultimately, rotary-wing aircraft marked the beginning and end of large-scale U.S. involvement in Vietnam. Army transportation companies, organizational predecessors to assault helicopter companies, were among the first units to arrive in-country. The heart-wrenching closing images of the American experience in Southeast Asia also feature the ubiquitous helicopter, ferrying desperate crowds from Saigon’s rooftops in front of an indefatigable North Vietnamese advance.

The story of Army Aviation in the years following Vietnam finds a lingering legacy of their experience there. While true that the war formed them into a capable force, the resultant lessons did not find potential applicability in multiple environments – not everything assault helicopter units learned there translated into carbon-copy usage elsewhere. Southeast Asia, with its mostly low-intensity warfare, was a suitable starting point for utilizing helicopters in modern combat, but some still harbored doubts about rotary-wing aircraft’s usefulness in more sophisticated environments. Vietnam had demanded much of the Army’s attention throughout the 1960s, but the specter of Europe still loomed. With draw-downs of American forces in Southeast Asia beginning under President Richard Nixon’s Vietnamization program, some in the aviation community began focusing their attention back on the European question. By 1973, with the final American combat soldier leaving Southeast Asia, many Army aviators were looking far beyond that war, seeing it as confined already to the history books – some might say in an attempt to forget the experience altogether.

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Without doubt, the war had taken a toll on the Army’s ability to prepare for the more menacing scenario of a large-scale war in Europe. While the U.S. military slogged through the rice paddies, slashed through jungles, and plodded over the mountains of Vietnam, the Soviet Union continually built up their military. By war’s end, Warsaw Pact countries could bring to bear more sophisticated conventional, not to mention nuclear, weaponry than the Army was used to fighting. The U.S. Army emerged as a whole from Southeast Asia realizing that they were outmatched in the requisite men and equipment to fight a possible European war. Too fatigued and jaded by Vietnam, the American public was likely not to support a continued high-budget military. Yet, in order to face potential threats, the Army could not simply downsize their inventory and personnel in a fashion as quickly as prior wars. Into this reality, Army Aviation emerged from a decade of counterinsurgent struggle, grasping to determine what applicability the experience had towards future conflicts.

Not surprisingly, in the early 1970s they looked more forward than they did backward. Gone from the pages of many service journals was analysis of counterinsurgency, replaced instead by discussions of conventional war. Visionaries posited that to remain a viable force required a new posture, one which stressed Europe as the primary field of battle and doctrine which broke the “bad habits” of Vietnam.

Reflecting on the future, Army Aviation asked where they fit into the reworked

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European-focused doctrine, with an emphasis on mechanized warfare over the infantry-heavy Vietnam structure. The 1973 Yom Kippur War in the Middle East provided the U.S. Army valuable insight into war against a heavily mechanized Soviet-equipped force. In many ways it provided an impetus for Army Aviation planners to adapt quickly their tactics and procedures. That war “clearly announced the arrival of a new spectrum of Soviet weapons,” which would become “particularly challenging to aviation operations.”

Tactical analysis of mid-intensity war continued throughout the decade, as the military’s desire to fight another low-intensity Third World counterinsurgency had nearly totally abated.

In a way, Army Aviation arrived full circle, back again where Southeast Asia forced them to depart. The Howze Board’s recommendations and the resultant tests suddenly became as relevant in the post-Vietnam era as it was before 1965. Indeed, the tactics might have seemed very familiar to those who experienced the Howze Board’s conceptual formation and 11th Air Assault Division’s testing. These concepts were not new, but Army Aviation “ignored – or forgot – them during most of the Vietnam period.” John Tolson argued that while Vietnam had demonstrated their “terrific inherent flexibility by adjusting and modifying tactics to an entirely different environment,” they needed to “actually unlearn many procedures we used during recent years of combat in Vietnam.”

Despite the renewed relevancy of the Howze Board’s findings, just as a decade before, budgetary restrictions made them unrealistic. The air

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assault division, of which Howze originally suggested forming five to be placed around the world, ultimately never evolved past the demands Vietnam placed upon it.\(^{340}\)

Army Aviation might have come a long way, but they once again faced many of the same criticisms from their early days. Lingering beliefs among airmobility’s opponents upheld that helicopters remained too vulnerable in mid- to high-intensity warfare environments. Proponents countered such criticism by upholding that correct tactics and techniques – namely nap of the earth flying, very close to the ground surface under radar and moving quickly – could lessen helicopter vulnerability, mirroring the line of reasoning used a decade earlier by Howze and others.\(^{341}\)

Though the era of fighting for their very existence had passed, Army Aviation still had to prove their legitimacy in peacetime. As is common in the times of peace which follow extended war, budgetary restrictions forced reevaluations of organization and purpose. Yet, like the pre-Vietnam era, much of what Army airmobility practitioners debated was still theoretical. The war in Europe never came, and with the fall of the Berlin Wall in 1989, along with the tumbling edifice that was the moribund Soviet Union two years later, the likelihood of a war on the plains once again diminished.

Ultimately, what did Vietnam teach Army Aviation? Of what value in the post-war era was a decade of operations, of learning and adapting to a counterinsurgency? The

\(^{340}\) In a 1967 speech, Hamilton Howze returned to the idea of five Army airmobile divisions, a number he deemed to be “modest.” With eyes to the future, Howze believed that “During or immediately after the Vietnam War the U.S. should, and indeed I would say must, organize at least five airmobile divisions in the U.S. Army, and also at least the three air cavalry brigades that the Board recommended.” Hamilton Howze, “Keynote Speech, Army Avionics Research Symposium at Princeton or U. of Pennsylvania, 8 June 1967,” p. 11, Box 9, Folder 1, Howze-Hawkins Family Papers, USAMHI.

\(^{341}\) In 1974 he hinted that if the current trend of downsizing continued, in the event of a crisis the Army would be “woefully short of airmobile units.” General Hamilton H. Howze, “Speculations on the Future,” USAAD, Vol. 20, No. 6 (June 1974), 7.

\(^{341}\) General Hamilton H. Howze, “Tactical Employment of the Air Assault Division,” Army, Vol. 13, No. 2 (September 1963), 53.
denouement of Vietnam was not that it had crippled the once strong organization. Indeed, they exited Southeast Asia with the best equipped, most advanced and experienced helicopter force ever put to field. General Westmoreland argued that in the Republic of Vietnam the Army underwent a “quiet revolution” in the tactics, techniques and technology of ground warfare.\(^\text{342}\) That is certainly true of multiple aspects of what they experienced there; a more suitable explanation for Army Aviation’s support of the ground war might be a “quiet evolution,” however. Throughout the conflict they gradually learned how to employ helicopters in varied tactical environments.

In the beginning of American involvement, the Army’s aircraft operated in a true guerrilla war. With the arrival of the 1st Cavalry Division and the Pleiku Campaign, Army Aviation learned how to combat regular forces in a conventional warfare setting. The subsequent years were a mixture of both counterinsurgent actions and fighting a continual conventional war against the NVA. Lam Son 719 and its sophisticated anti-aircraft threat taught pilots and crews how to operate in a mid-intensity environment. Though the numbers of aviators who gained experience from direct involvement in Laos might have been few, comprehensive analysis of the operation ensured those lessons gained a broad audience. The Army’s employment of helicopters in Southeast Asia, therefore, provided combat-proven knowledge for distinct environments and tactical applications.

Some have seen wasted opportunities in Vietnam’s aftermath. Observers like Major Frank T. Taddonio argue the Army did not take sufficient advantage of the lessons they gathered in Southeast Asia – the quick return of focus towards Europe did not exploit ten years of combat airmobile operations. Taddonio posits that the Army became

preoccupied with attack helicopters in a conventional war during the 1970s and 1980s, “while the lessons of airmobility learned in Vietnam faded like a bad dream.” To an extent, he is correct. Institutional antipathy towards an entire war negatively tainted potentially helpful doctrine. Vietnam may not have contributed a direct transposition of tactics and procedures into a European environment, but it provided a framework for future war. Effectively, it was a “building block to the future,” where Army Aviation “practiced the principles of war.” Their job, then, was to employ the fundamentals devised in Southeast Asia and tailor new techniques and tactics for likely conflicts.

More importantly, though, Vietnam’s largest contribution to the future of Army Aviation was in terms of personal experience. Many of the commanding officers in the following decades, both infantry and aviation, had completed combat tours in Southeast Asia. They retained first-hand knowledge about the employment of helicopters in warfare and easily constituted the most experienced heli-borne military in the world – no other force could claim the extent of combat accomplishments or battlefield knowledge than the U.S. Army. Those who did not remain in the active service found a welcome home in the burgeoning National Guard or Reserves. Merely a skeleton force during the Vietnam War struggling with outdated equipment and senior pilots, the 1970s inactive Army grew in men, equipment, and capabilities. Would their country call upon them, they constituted an-already experienced force, most with combat flight hours and competent

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aviators.\textsuperscript{346} Army Aviation emerged from a decade of war a more respectable organization that specialized in a proven concept, portending a bright future.

The legacy of Vietnam, despite the Army’s return to a Euro-centric view of future war for decades following, is still felt today. Operation Desert Storm in 1990 might not have given Army Aviation much of an opportunity to refine their operations, but their impressive performance is testament to sound preparation and training. Though the wars in which the Army currently finds itself are dissimilar to what they experienced in Southeast Asia, the principles are still the same – to provide the infantry enhanced mobility against an insurgency. It is unlikely they will again experience a period of such vibrant developments and rapid maturity as Vietnam provided.

The solidification of doctrine which George Seneff so incessantly demanded, and the decades of experience which he bemoaned Army Aviation lacked, have now come to fruition. Even in 1966 Hamilton Howze could foresee the future benefit of Vietnam. “What, from a purely military point of view, will come out of the war in Vietnam?” he asked. Experience, he argued, would be the largest benefit. The Army would be able to boast they were the “most experienced, modern, battle-wise” force in the world. More importantly, though, is that the bulk of their experience and wisdom “will pertain to the use of the air that lies close to the tree tops.”\textsuperscript{347}


\textsuperscript{347} Howze, “An Appraisal of Army Aviation,” 27.
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