"FIRST IN...LAST OUT"
HISTORY OF THE U.S. ARMY PATHFINDER (1942-2011)

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MASTER OF MILITARY ART AND SCIENCE
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The intent of this study is to give us a better optic on how the Pathfinder strategy has evolved over the course of 70 years, which will allow us to determine their specific contribution to mission success. In doing so, it will provide insights into Pathfinder doctrine, "tactics, techniques and procedures," strategy, technology and lessons learned from their origin at the British, 21st Independent Parachute Company to today's modern warfare. It aims to draw conclusions and recommendations to optimize the employment of Pathfinder and Pathfinder Operations to meet the threats and challenges of today's ever-changing environment

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

FIRST IN…LAST OUT: THE EVOLUTION OF U.S. ARMY PATHFINDERS FROM 1942-2011, by MAJ Luis O. Guzman, 248 pages

Pathfinders were deployed in different theaters of war under totally different types of warfare, enemy idiosyncrasies, terrain, strategy and tactics, and as such they were called on to rapidly evolve and adapt to these different situations. The primary focus of this study is to provide a historical account and analysis of the U.S. Pathfinder from 1942 to what they are today, in order to understand this adaptability. This study traces the late development of Pathfinder Operations by the U.S. Army during World War II (WWII), and selected employments of Pathfinders in both, the European and Pacific Theaters of operations. This historical account will also explore Pathfinder Operations and employment during the Vietnam and Afghanistan Wars. The research concept illustrates three archetypal historical examples: WWII, which was to see the development of full-scale Airborne Operations; the Vietnam War, which was the proving ground for Air Mobility Operations, and Afghanistan, were pathfinders added a new dimension to their capabilities by conducting personal recovery missions during Operation Enduring Freedom.

The intent of this study is to give us a better optic on how the Pathfinder strategy has evolved over the course of 70 years, which will allow us to determine their specific contribution to mission success. In doing so, it will provide insights into Pathfinder doctrine, “tactics, techniques and procedures,” strategy, technology and lessons learned from their origin at the British, 21st Independent Parachute Company to today’s modern warfare. It aims to draw conclusions and recommendations to optimize the employment of Pathfinder and Pathfinder Operations to meet the threats and challenges of today’s ever-changing environment.

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ACRONYMS

AA	Air Assault
AO	Area of Operations
CARP	Computer Air Release Point
CAS	Close Air Support
CCA	Close Combat Attack
CDS	Container Delivery System
CLE	Central Landing Establishment
CLS	Central Landing School
COS	Chief of Staff
CSAR	Combat Search and Rescue
DART	Downed Aircraft Recovery Team
DZ	Drop Zone
DZSO	Drop Zone Safety Officer
DZST	Drop Zone Support Team
EZ	Extraction Zone
FRAGO	Fragmentary Order
GMRS	Ground Marked Release System
GZ	Glider Zone
HE	Heavy Drop
HLZ	Helicopter Landing Zone
LOC	Lines of Communication
LZ	Landing Zone
MEDEVAC	Medical Evacuation

NATO	North Atlantic Treaty Organization
NVA	North Vietnamese Army
OPCON	Operational Control
OPORD	Operation Order
PAVN	Peoples Army of Vietnam
PF	Pathfinder
PFO	Pathfinder Operations
PI	Point of Impact
PR	Personnel Recovery
PZ	Pickup Zone
RAF	Royal Air Force
RB	Radar Beacon
RECON	Reconnaissance, Reconnoiter
RP	Release Point
SHAEF	Supreme Headquarters Allied European Forces
SLOC	Sea Line of Communication
SOP	Standard Operating Procedures
TDP	Touchdown
TEWT	Tactical Exercise Without Troops
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
VC	Viet Cong
VIRS	Verbally Initiated Release System

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CHAPTER 1

INTRODUCTION

> War undergoes a constant evolution. New weapons create new forms of combat. To foresee this technical evolution accurately, to assess the effect of a new weapon system on the course of a battle and to employ it before the enemy does, are essential conditions of success.[1]
>
> — Official German Manual on Troop Leadership (Truppenführung) prior to World War II

The evolution of the United States (U.S.) Army Pathfinder has a unique history. Its origin can be traced to World War II (WWII) with the U.S. Army's development of airborne units that would parachute behind enemy lines to carry out their assigned missions.

One of the primary lessons learned from these parachute drops was that in order to drop large-scale airborne units accurately, and prevent the scattering of paratroopers over an expanded area; a small group of specially trained paratroopers would be needed to lead the way. These paratroopers would be trained and equipped with homing devices and visual aids to aid pilots to navigate to their designated Drop Zones (DZ) or Glider Zones (GZ). These paratroopers were given the classification 'Pathfinders.' From here on Pathfinders would descend behind enemy lines and spearhead airborne assaults. Italy, France and Holland would witness their original employments. Their efforts led to incalculable improvements in parachute drop accuracy and mission success.

Pathfinders continued to evolve during the Vietnam War by attaching Pathfinder detachments and companies to ground units. These Pathfinders provided navigational assistance and control of Army aircraft (Helicopters) to their designated landing zones (LZ), to include support for all phases of airmobile operations. Pathfinders continued to

be employed throughout the Gulf Wars and Afghanistan. In Afghanistan, during Operation Enduring Freedom (OEF) Pathfinders added a new dimension to their capabilities by conducting Personnel Recovery (PR) missions.

To explain the formation of Pathfinders and Pathfinder Operations (PFO) it is essential to understand how and why this strategy emerged. The primary focus of this study is to provide a historical account and analysis of the U.S. Army Pathfinder from 1942 to what they are today. Pathfinders were deployed in different theaters of war under totally different types of warfare, enemy idiosyncrasies, terrain, strategy and tactics, as such they were called on to rapidly evolve and adapt to these different situations.

The aim of this analysis is to establish Pathfinders ability to rapidly adapt to changing situations as one of its main virtues, and to encourage continued training and nurturing of these units; with a special emphasis on their capability to adapt to the unforeseen changes in today's complex environment, which presents a wide range of threats and challenges that will emanate from diverse populations.

This study traces the development of Pathfinder operations by the U.S. Army during WWII, and selected employments of Pathfinders in both, the European and Pacific theaters of operations. This historical account will also explore selected Pathfinder operations and employment during the Vietnam and Afghanistan Wars. The research concept illustrates three archetypal historical examples: WWII, which was to see the development of full-scale airborne operations; the Vietnam War, which was the proving ground for airmobility operations, and Afghanistan, were Pathfinders added a new dimension to their capabilities by conducting personnel recovery missions during OEF.

It is a case study of how the Pathfinder strategy has evolved over the course of 70 years, and how the formation of Pathfinders and Pathfinder operations have adapted to the changes of different types of warfare. In doing so, it will provide insights into Pathfinder doctrine, "tactics, techniques and procedures," (TTP) strategy, technology and lessons learned from their origin at the British, 21st Independent Parachute Company to today's modern warfare. Additionally, the author will illustrate three historical examples: the evolution of airborne, airmobile and personnel recovery operations, in order to gain an appreciation on how these different types of warfare evolved throughout history.

Primary Research Question

Has Pathfinder's high adaptability and employment been a major factor for mission success in the theater of war where they have been deployed?

Secondary Research Questions

To ultimately answer the primary question, we must understand, analyze and assess the following secondary questions:

1. Why did the formation of Pathfinders emerge?
2. How did Pathfinder operations evolve, adapt, and contribute to airborne warfare in WWII?
3. How did Pathfinder operations transform, evolve, adapt and contribute to airmobility warfare in the Vietnam war?
4. What unique capability did Pathfinders execute in support of the war in Afghanistan?

5. Did Pathfinder operations evolve and adapt to the different theaters of war effectively?
6. Were they of any significance in assisting the assault forces to achieve their overall objectives?
7. What aspects influenced mission success or failure?
8. Will Pathfinder operations still be a useful type of warfare to meet the threats and challenges of future conflicts?

Assumptions

The study of this thesis is historical, all of the research and content is derived from archived data, previously written publications, and field research through first hand accounts. No assumptions need to be made at this time. All conclusion derived are based exclusively on historical facts.

Definitions

Air Assault. A vertical envelopment is conducted to gain a positional advantage, to envelop or to turn enemy forces that may or may not be in a position to oppose the operation. Ideally, the commander seeks to surprise the enemy and achieve an unopposed landing when conducting a vertical envelopment. However, the assault force must prepare for the presence of opposition. At the tactical level, vertical envelopments focus on seizing terrain, destroying specific enemy forces, and interdicting enemy withdrawal routes.[2]

Air Assault Operation. Operation in which assault forces (combat, combat service, and combat service support), using the firepower, mobility, and total integration

of helicopter assets, maneuver on the battlefield under the control of the ground or air maneuver commander to engage and destroy enemy forces or to seize and hold key terrain.[3]

Airborne. Personnel, troops especially trained to effect, following transport by air, an assault debarkation, either by parachuting or touchdown.[4]

Airborne Operation. An operation involving the air movement into an objective area of combat forces and their logistic support for execution of a tactical, operational, or strategic mission. The means employed may be any combination of airborne units, air transportable units, and types of transport aircraft, depending on the mission and the overall situation.[5]

Amphibious Operation. A military operation launched from the sea by an amphibious force, embarked in ships or craft with the primary purpose of introducing a landing force ashore to accomplish the assigned mission.[6]

Drop Zone. A specific area upon which airborne troops, equipment, or supplies are airdropped.[7]

Guerrilla Warfare. Military and paramilitary operations conducted in enemy-held or hostile territory by irregular, predominantly indigenous forces.[8]

Landing Zone. Any specified zone used for the landing of aircraft.[9]

Personnel Recovery. The aggregation of military, civil, and political efforts to obtain the release or recovery of personnel from uncertain or hostile environments and denied areas whether they are captured, missing, or isolated. That includes US, allied, coalition, friendly military, or paramilitary, and others as designated by the National Command Authorities. Personnel recovery (PR) is the umbrella term for

operations that are focused on the task of recovering captured, missing, or isolated personnel from harm's way. PR includes, but is not limited to, theater search and rescue; combat search and rescue; search and rescue; survival, evasion, resistance, and escape; evasion and escape; and the coordination of negotiated as well as forcible recovery options. PR can occur through military action, action by nongovernmental organizations, other US Government-approved action, and/or diplomatic initiatives, or through any of these.[10]

Pickup Zone. A geographic area used to pick up troops or equipment by helicopter.[11]

Reconnaissance. A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.[12]

Scope

As previously mentioned, this is a study of how the Pathfinder strategy has evolved over the course of 70 years, and how the formation of Pathfinders and Pathfinder operations have adapted to the changes of different types of warfare, in three different theaters of war. The author will only focus and provide a snapshot of selected operations during WWII, Vietnam and Afghanistan wars as follows:

WWII

1. The origin of Pathfinders and Pathfinder operations by the British, 21st Independent Parachute Company in June of 1942.

2. The formation of the U.S. Army Pathfinder after Operation Husky.

3. Pathfinder Operations in Operation Overlord (European Theater of Operations).

4. Pathfinder Operations throughout the airborne assaults in the Philippine Campaign (Pacific Theater of Operation).

Vietnam

1. The evolution and adaptability of the U.S. Army Pathfinder in the Vietnam War.

2. The expansion of Pathfinders and Pathfinder operations in airmobility warfare during the Vietnam war.

3. Pathfinder operations in the Battle of the IA Drang Valley, which is considered the first use of airmobility and Pathfinder operations in a large-scale conflict in Vietnam.

Afghanistan

It will focus on selected employments (missions) of Pathfinders in their unique role of executing personnel recovery missions in Afghanistan.

Limitations

This study will be limited to the research material available on Pathfinder operations, TTPs, doctrine, strategy, and lessons learned from the original airborne Pathfinders of the British, 21st Independent Parachute Company, the formation of the U.S. Army Pathfinders during WWII, the transformation of the U.S. Army Pathfinders to Air Mobile Operations in Vietnam, and Pathfinders capabilities of conducting personnel recovery mission in Afghanistan from a historical perspective.

Other limiting factors include the limited time allotted during the ten-month Command and General Staff Officer Course, and the selection of specific Pathfinder operations within the theaters of war, in order to keep the study manageable. However, the author will derive the information needed to conduct a comprehensive analysis of the present topic, and to deliver a historical account of the U.S. Army Pathfinder from 1942-2011.

Delimitations

This historical account will focus on the origins of the Pathfinder, the formation of U.S. Army Pathfinders and Pathfinder operations during WWII; highlighting selected employments of U.S Army Pathfinders in both, the European and Pacific theaters of operations. It will also include selected operations in the Vietnam and Afghanistan wars. This focus will be directed to determine how Pathfinder employments were a major contribution to mission success in the examples below. To wit:

First. A detailed analysis of the airborne plan and Pathfinder employment of Operation Husky (the Invasion of Sicily) and Operation Overlord (the Invasion of Normandy), in the European theater of operations will be provided. It will also examine the airborne plan and Pathfinder employment of the airborne assaults in the Philippine Campaign, in the Pacific theater of operations.

Second. it will detail the rapid transformation of Pathfinders and Pathfinder operations to air mobility warfare as seen in the Vietnam war. The airmobility plan and Pathfinder employment in the Battle of IA Drang Valley will be featured.

Third. The unique role of executing personnel recovery missions in Afghanistan will be described.

The author will not provide a written history of all events that transpired in each of these operations from a maneuver perspective. There have been numerous publications written about this, and it is not the focus of this thesis to address these issues. However, it will determine if Pathfinder operations were of any significance in assisting the assault forces achieve their overall objective to their assigned missions, and what aspects influenced mission success or failure.

Significance of Study

The significance of this study is to provide a historical account and analysis of the U.S. Army Pathfinder, which will allow us to determine their specific contribution to mission success. In doing so, it will provide insights into Pathfinder doctrine, TTPs, strategy, technology and lessons learned from their origin at the British, 21st Independent Parachute Company to today's modern warfare. It is also intended to give us a better optic as it pertains to their future employment in today's ever-changing environment.

The findings of this study will provide a contribution to the Profession of Arms and Military History. It aims to draw conclusions and recommendations to optimize the employment of Pathfinders and Pathfinder operations to meet the threats and challenges of future conflicts.

Review of Literature

> Every difference of opinion is not a difference of principle.
>
> — Thomas Jefferson, First Inaugural Address

The following chapter reviews the literature relating to Pathfinder and Pathfinder operations based on three classic historical examples: WWII, which was to see the development of full-scale airborne operations; the Vietnam war, which was the proving

ground for airmobility operations, and Afghanistan, were Pathfinders added a new dimension to their capabilities by conducting PR missions during OEF.

The intent is to provide the reader with the essential information reviewed by numerous scholars who have contributed to this topic, and to provide a theoretical understanding of why the U.S Army Pathfinder strategy emerged. The author has used all available sources, to include the opinion of military scholars, respected authors, military doctrine, books, and journals. It is believed by this author that a comprehensive search has been performed to arrived at the situations described in this text. To demonstrate how Pathfinder's high adaptability and employment have been a major factor for mission success in those theaters of war were they have been deployed. A painstaking approach to this research has been employed in order to establish their rapid adaptability to changing situations as one of its great virtues, and to encourage continued training and nurturing of these unit.

This review of literature will provide specific and detailed references as its bibliography. This notation will follow the standard mode to include authors name, title of source and date of publication. It will then provide an overview of the background information on the topics in general, followed by a short review and analysis of the information contained in the published works. The authors opinions will be expressed in those instances when it has been felt that they would be contributory. In the final analysis it is hoped that this will provide a diverse insights to Pathfinder origins, fundamentals, characteristics and operations.

The U.S. Army's historical portrayals of how the U.S. Army Pathfinders came into being is not well defined. They usually begin with the Invasion of Sicily in July of

1943, seen through the rugged delivery, and dispersion (approximately sixty-five miles) of the paratroopers of the 505th PIR conducting the airborne assault on Sicily. It is here where it can be said to be the birthplace of the American airborne technique. As Major General James Gavin states, "It is during this operation that the theories originally conceived, nurtured, and brought to apparent maturity without the test of battle were exposed to their first test. How well they fared, how well they fought, and what our airborne forces accomplished are questions not even partially answered to date."[13]

World War II

The authors of numerous historical publications of airborne operations in World War II treat Pathfinders as an absence of thought. Even though several historians have suggested insightful historical perspectives, only John Warren, in his historical study, *Airborne Missions in the Mediterranean, 1942-1945,* published in 1955, mentions the existence of the 21st IPC the original Pathfinders of the British forces, and the combined training conducted between British and American airborne forces; along with the troop carrier wing. He never mentions why the Pathfinder concept was not shared with the American Aairborne units, even though the troop carrier wing's had conducted combined operations with the 21st IPC. In addition, he does not specify why Americans did not try to form and train a Pathfinder unit of their own before the invasion of Sicily. In spite of the close working relationship between the British and Airborne forces, to include the outcome of the parachute assault on Operation Torch. It is the conviction of the author, that Warren's historical study is still the most comprehensive primary source in regards to U.S. Army Pathfinders up to date.[14]

American Airborne Pathfinders in World War II by Jeff Moran (2003) provides an illustrated history of the American Pathfinder, and describes the special equipment used by Pathfinders to include the Eureka Beacon and Rebecca Receiver, which was a British designed and manufactured radar device inspired by General F.A.M. Browning who was the British General charged with the task of raising and training Britain's very first airborne division. He inspired the development of the British 21st IPC. Moran also mentions the formation of pathfinders one week prior to the combat jump in Agrigento, Sicily, and the combined training conducted with the British Pathfinders. Moran does not portray the Pathfinder concept as a product of the debacle in Operation Husky, as the common theme like many authors of historical airborne publications.

First In! Parachute Pathfinder Company: A History of the 21st Independent Parachute Company the original pathfinders of British Airborne Forces 1942-1946 by Ron Kent (1979), it provides a unique view on the development and fundamental beginnings of the Pathfinder concept, doctrine, and organization. It also demonstrates examples of how Pathfinder's became an incalculable force multiplier, and contributed to the success of airborne operations by providing navigational aid and guidance. This publication also provides insights to how the Pathfinder concept came into being, providing one of the primary bases for this thesis.

There have been a plethora of publications that have summarized airborne operations in World War II. Most deal with airborne plans from a maneuver perspective, and very little is addressed on Pathfinder employment in support of airborne operations. This includes biographies of famous airborne leaders, WWII historical publications on the airborne effort, and WWII Department of the Army military journals and books, a

large majority fail to reference the development of Pathfinders in support of the airborne arm. Publications such as *Paratrooper!* by Gerard Delvin (1979), *Airborne* by Lt. General E. M. Flanagan Jr (2002), *Ridgeways Paratroopers* by Clay Blair (2002), and *The Angels* by Lt. General E.M. Flanagan (1989), offer a in-depth historical account of the U.S. Airborne from the development of airborne tactics and techniques, and the airborne role in operations in WWII. To include, requirements needed from the Troop Carrier Groups, but do not make reference of the development and role of Pathfinderss in WWII.

Out of the Blue: U.S. Army Airborne Operations by James Huston (1972), is one of the best works on American airborne operations, it provides an in-depth analysis on the development of the airborne arm during WWII. It includes the complex relationships between the Army-Air Forces and the Ground Forces, while conducting combined operations. In addition, Huston provides insights into the late development of the U.S. Army Pathfinder, their development, and their successful contributions in support of airborne operations.

Vietnam

Unlike the authors of numerous historical publications of airborne operations in World War II, who treated Pathfinders as an absence of thought, authors of airmobility warfare provided detailed accounts of Pathfinder TTPs, operational concepts, and employment in support of air assault operations.

Vietnam Studies: Air mobility 1961-1971 by Lt. General John J. Tolson (1973), was the most comprehensive primary source regarding the employment of helicopters in Vietnam. It provided an instrumental historical account of the development of the

airmobility concept. To include the significance of the Rogers and Howze boards, the rivalry between the newly formed U.S. Air Force and Army, a well written account of the Battle of the Ia Drang Valley, and the reactivation of Pathfinder training in 1955 to provide terminal control for the Army's organic helicopters.

The 1962 Howze Board and Army Combat Developments by J.A. Stockfisch, this report reviews Army combat developments, and the vital part the U.S. Army Tactical Mobility Requirements Board (the Howze Board). It placed emphasis on the organization, force structure, and testing of a new airmobility division.

Colonel Harold G. Moore's After Action Report, *IA DRANG Valley Operation 1st Battalion, 7th Cavalry* November 14-16, 1965, is an invaluable primary source that provides a clear and concise historical account of the operation. It enhances the understanding of both air assault and ground tactical plan, including the vital role the Pathfinder's played in the successful accomplishment of the airmobility plan.

Publications such as *The 1st Cav in Vietnam: Anatomy of a Division* by Shelby Stanton (1987*), Seven Firefights in Vietnam:Fight at Ia Drang* by John Cash (2007), *We were Soldiers Once and Young* by Lt. General Harold G. Moore (Ret) and Joseph L. Galloway (1992), and *A History of Army Aviation* by Dr. James W. Williams (2005), these publications offer an in-depth historical and first hand accounts of the employment of the airmobility technique and the *1st Cavalry Division role in the Ia Drang Vally, Vietnam*. These documents further shed light on the significant roles, adaptability and diverse capabilities of the Pathfinders, and their contribution to the mission success in support of airmobility operations in Vietnam.

Afghanistan

In Afghanistan Pathfinders added a new dimension to their capabilities by conducting Personnel Recovery and Downed Aircraft Recovery Team (DART) missions during Operation Enduring Freedom (OEF). The author found a minimal selection of material referencing Pathfinder operations in Afghanistan. Nevertheless, the literature found consist of articles and multiple secondary sources, and first hand accounts of Pathfinders who served in Afghanistan.

Research Methodology

The research methodology used in this study will rely on the investigation conducted, the literature reviewed, insights from historical documents, and analysis of written records of past occurrences. The author will utilize both primary and secondary sources to conduct the research of the present topic, relying upon primary sources for the majority of the information, even though several secondary sources will also be used. The sources included are military scholars, respected authors, military doctrine, books, journals, technical papers, after action reports, and other authors whose work is well researched and based in verifiable data. Occasionally field research through first hand accounts will be employed. This will provide a diverse collection of references, which will allow veridity of information by cross-referencing means. The research approach can be identified as having two distinct areas of study (stages):

Stage One

The author will give a brief synopsis of the formation and evolution of airborne, airmobile and personnel recovery operations. The intent is for the reader to gain an

appreciation of the historical background and contributions made by these forms of warfare, and how they changed U.S. military tactics, concepts and methods to achieve key objectives.

Stage Two

First, the author will provide a glimpse of the operational environment by providing the situation in each theater of war and the mission in each of the operations illustrated. It will also describe the complex threats and challenges the U.S. forces faced within each conflict.

Second, a written account of all events that transpired in each of these operations from a maneuver perspective is beyond the scope of this paper. The focus will be kept on the airborne, airmobility and personnel recovery plans, and how they helped shape both U.S. and allied military operations.

Third, a historical perspective and employment of Pathfinders will be analyzed throughout each of the operations depicted.

The findings of this case study will be discussed in the following chapters. It will use the literature and methodology discussed (*vide supra*) to present the possible answers to both the primary and secondary research questions. The intent is to provide a better understanding of the employment of Pathfinder operations. These findings will make a contribution to the Profession of Arms and Military History, by providing conclusions and recommendations to enhance Pathfinder usage, and its ability to meet the threats and challenges of future conflicts.

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[1]Captain F. O. Miksche, *Paratroopers* (London: Faber and Faber, 1943), 22.

[2]Department of the Army, Field Manual (FM) 1-02, *Operational Terms and Graphics* (Washington, DC: Government Printing Office, 2010), 1-5.

[3]Ibid.

[4]Ibid.

[5]Ibid.

[6]Ibid., 1-10.

[7]Ibid., 1-67.

[8]Ibid., 1-90.

[9]Ibid., 1-109.

[10]Ibid., 1-166.

[11]Ibid., 1-146.

[12]Ibid., 1-158.

[13]Major General James M. Gavin, *Airborne Warfare* (Washington, DC: Infantry Journal Press, 1947), 1.

[14]Richard Scott Hickenbottom, "U.S. Army Pathfinders in World War II: The Mediterranean and Europe" (Thesis, Texas A&M University, College Station, TX, 1995), 19-22.

CHAPTER 2

EVOLUTION TO FORMATION

Evolution of Airborne Operations

> Parachute units are an efficient means for disorganizing the enemy's command and control, and for operations in close coordination with forces attacking from the front, the parachute units are able to exert a decisive influence on the complete defeat of the enemy in a given direction.
>
> — *Soviet Field Service Regulations*, 1936

Being able to pinpoint when airborne warfare was first conceptualized is difficult. The dream of vertical envelopment can be traced back for centuries. The principle of using air resistance to slow a fall can be traced back to 90 B.C. in the ancient periods of China. The Chinese historian Si Ma Chian described how the emperor Shun, used a sort of parachute made from two large bamboo hats to increase air resistance, thus reducing the falling speed to survive a fall from a rooftop.

In the fifteenth century, Leonardo da Vinci proposed the idea of the parachute in his sketch of a pyramidal-shaped object in his *Codex Atlanticus Manuscript* with the following written observation. "If a man had a tent of linen of which the apertures have all been stopped up, he will be able to throw himself down from any great height without sustaining any injury."[1] With a few simple modifications, this sketch could be that of a modern-day parachute. Da Vinci did not put this concept into practice, but is the first documentation of the parachute in western history.

Figure 1. Leonardo da Vinci Codex Atlanticus Manuscript (Parachute)

Source: British Library, "Parachute," Online Gallery, http://www.bl.uk/onlinegallery/features/leonardo/parachute.html (accessed April 18, 2014).

The first recorded parachute jump took place on October 22, 1797 in Paris by a man called Andre-Jacques Garnerin. Garnerin a balloon pilot who used his homemade parachute, which was 10 meters in diameter, and had 36 suspension lines to descend when his tethered balloon exploded at an altitude of 700 meters. Late in the 18th Century, these balloons flights were a well-attended novelty in France, but only one spectator realized the military significance of these events.[2] The American scholar-scientist and statesman Benjamin Franklin, wrote in January 1784 about this historical event and stated:

> Five thousand balloons, capable of raising two men each, could not cost more than five ships of the lineAnd where is the Prince who can so afford to cover his county with troops for its defense, as that ten thousand men descending from the clouds might not in many places do an infinite deal of mischief before a force could be brought together to repel them?[3]

A century and a half would pass before these thoughts materialized, and became a practicable operation of war. The development of the Parachute evolved slowly, and it was not until the invention of the airplane that its use was accelerated.[4]

The 10-second flight made by the Wright Brothers in Kitty Hawk, North Carolina in 1903 led to a rapid cascade of advancements, which brought the airplane into being. Aviators in an attempt to understand the critical areas concerning aerodynamics, wing design and engine power began experimenting with maneuvers in their primitive aircraft. These factors lead to an alarming rate of airplane crashes and pilot deaths. This prompted several balloon parachutists to design a parachute suitable to be used by winged aviators. Leo Stevens designed and constructed a cone shape model with a body harness. This parachute would be fastened to the underside of an airplane, just below the pilot's feet. The pilot would wear a body harness, which had a static line attached to the stowed parachute. Pilots bailing from their aircraft would pull the parachute out of the cone by virtue of their body weight. Stevens' invention was tested in February of 1912, when Albert Berry became the first man in history to jump successfully from an airplane.[5]

When the airplane was introduced to combat in World War I (WWI), its primary purpose was to fly unarmed over enemy territory to gather information on the adversary. However, by 1915 the airplane was armed with dual machine guns. This innovation led to air-to-air engagements, and aircrafts being shot down. This meant the pilot would probably not survive, since he had no way of safely abandoning his aircraft. During this period of time in the war, parachutes had not been successfully adapted for use in airplanes. In 1918, the Germans were the only aerial combatants to provide their pilots with parachutes. These parachutes were static-line-activated; much like Leo Stevens

design the pilots wore a canvas body harness over their flying suits. Upon climbing into their aircraft, they attached two D-rings to the parachute's risers. When the pilots were forced to abandon their aircraft the pilots stood quickly on their seats, tossed the container holding the parachute, and then jumped after it, and the weight of the pilot would pull the chute from its container. This proved to be very effective in saving the lives of many German aviators.[6]

Colonel William "Billy" Mitchell the Chief of all American Expeditionary Force air units during WWI heard about the use of parachutes and their effectiveness. This prompted Colonel Mitchell, to put in a request to U.S. Army Headquarters in Washington for the development of a parachute for his aviators. Experimentation began shortly after Mitchells' request; however, the War ended and the research was discontinued.[7]

Colonel Mitchell approached General John Pershing, Commander of the Army Expeditionary Force during WWI on October 17, 1918, about an innovative operational plan to capture the City of Metz in Northern France. Mitchell believed that the application of trench warfare, where men rose out of their dugouts and attacked each other, had squandered millions of lives and made little impact on the outcome of the war.[8] In a detailed briefing he proposed to General Pershing a plan, which consisted of delivering 12,000 men from the First Army Division by parachuting behind the German lines. This operational plan relied on large quantities of aircraft and parachutes, neither of which were available in sufficient quantities. General Pershing took one look at the plan and rejected the idea. Colonel Mitchells' plan would never be carried out, since the war ended twenty-five days after his proposal was made.[9] Colonel Mitchells' plan did not come to be realized during WWI, however, he is credited with originating the vertical

envelopment maneuver. This innovation and contribution lead to moderate experimental trials conducted in the 1920s by the U.S. Army where infantrymen and their equipment were being dropped by parachute.[10]

By 1930 the Italians led the world in the field of airborne warfare, by having perfected the *Salvatore* static-line parachute, and successfully making several mass jumps with maneuver units; a training exercise jump on November 1927 and jumps in North Africa in 1929-1930. The Italians also studied and developed the techniques of using aircraft to deliver logistic re-supply by parachute. They applied this technique successfully in 1928, to deliver logistic re-supply to the stranded crew of the airship *Italia* in the Artic.[11]

Concerned over the Japanese invasion of Manchuria, in the early 1930s the Russians studied the competition for aerial supremacy amongst other European nations and the United States. This prompted the Soviet Army military planners to develop the concept and tactics of delivering armed men by parachutes en masse behind enemy lines. These military planners saw the parachute and the transport plane, as a means to deliver battalion-sized units to the battlefield.[12] On August 18, 1933 this concept was put into application when the Soviets held their first air show in Moscow, and successfully dropped forty-six paratroopers from two large bombers in an attempt to break the world record for mass parachute jumps. At the same demonstration they also dropped a small tank, which descended successfully with a large parachute. This marked the first known heavy equipment drop. This planted the seed for the Soviet Army's expansion in airborne warfare. By 1935, they achieved a military distinction when, on maneuvers witnessed by astonished foreign observers; they dropped two battalions of infantry on an airfield. The

paratroopers introduced the concept of "capturing" an airstrip, and holding the field until reinforcements armed with artillery weapons were airlanded. The Soviets are considered the first to develop military airborne units.[13]

The Germans followed the initiative of the Soviets in developing airborne forces. They took the rough idea of parachute infantry and refined it into a formidable military attack force. The Germans prohibited from rearming as per the Treaty of Versailles, formed a police detachment lead by Hermann Goring. The detachment's main purpose was to eliminate communist cells from Berlin, and one of the methods used to accomplish this would be to parachute onto suspected cells' locations. Upon becoming the Chief of the German Luftwaffe, Goring brought the parachute detachment into the air service.[14] Colonel Kurt Student, a decorated WWI aviator was selected to command Germanys' airborne troops. Under Students' expert leadership, Germanys' airborne and glider forces were trained to a peak of perfection. The Germans used this elite airborne force in combat for the first time, and would achieve extraordinary success in their attacks into the Low Countries during the opening moves of WWII. This provided the model for the allied nations to develop their airborne capabilities, and would establish the Germans as the pioneers of the airborne effort.[15]

In 1939, the United States was at the infant stage of developing its airborne capabilities. The Army's military attaches were reporting that the major powers, including Italy, Soviet Union, and Germany were experimenting with airborne troops; however, it was the U.S. attaché in Germany who reported that the German development, and execution of airborne warfare had achieved extraordinary success in combat. Impressed with these reports, the U.S. Army, Chief of Staff General George C. Marshall,

at the time one of American's best military strategist directed, Major General George A. Lynch, his Chief of Infantry in April of 1939, to begin a study for determining the validity for the U.S. Army to establish the concept of vertical envelopment, and the advantages, disadvantages and capabilities it would accrue to a force commander.

In five days, Major General Lynch, provided General Marshall with a lengthy report on the U.S. airborne effort; and the ability to mobilize airplanes to carry cargo, soldiers and artillery units. A test conducted in 1934 at Fort Benning proved that an entire infantry battalion, and all its equipment could easily and rapidly be flown great distances both during day and night by airplanes.[16] General Lynch concluded with a recommendation to conduct extensive testing to prove his proposal. As the study continued to evolve, there were various recommendations in reference to organizational and force structure requirements among the U.S. Army leadership. The study remained dormant due to other competing projects. The development of tanks and airplanes, assumed a higher priority. In January of 1940, Major General Henry H. Arnold, Chief of the Army Air Corps reported to General Marshall he could spare a few transport planes to continue with the project. General Marshall then directed Major General Lynch to give the "air infantry" top priority and assume responsibility for the program.[17]

Major General Lynch immediately assigned the project to then Major William C. Lee, the "Father of the Airborne," to the U.S. Army Airborne Project. Major Lee began his untiring efforts in developing the Army Airborne project.[18] He identified the need for aircraft, parachutes and material to conduct the initial parachute testing. In February of 1940, the Infantry Board at Fort Benning submitted a three-part recommendation to its chief in Washington concerning the air infantry project: The first phase of the board's

recommendation was to cancel the program of transport of an infantry battalion, and its equipment by airplane since earlier test proved this could be done. It was suggested instead to put emphasis on the parachute-troop portion of the program. Second phase recommended to the board that the Air Corps be asked to develop a suitable troop-type parachute for use by the infantrymen. This parachute had to meet the requirements of jumping at an altitude between three to five hundred feet. Third phase recommended that once the parachute had been developed, live test jumping be conducted by an all-volunteer standard infantry platoon of one officer and thirty-nine enlisted men. In addition these volunteers were to receive parachute pay of thirty dollars per month while conducting the test.[19] General Lynch approved the entire Infantry test board study on June of 1940. All the preliminary equipment-chute test drops completed, and the right personnel available, the Infantry board notified the chief in Washington that it was ready to proceed with live jump testing. Volunteers from Fort Benning's 29th Infantry Regiment formed the parachute test platoon. From the accomplishments of these men, the airborne effort came into being, and as then Lieutenant William P. Yarborough said:

> From the essence drilled by Billy Ryder's Parachute Test Platoon in the early 1940s, a tradition for extraordinary daring, leadership and accomplishments spread to the fledgling American parachute battalions, then to the regiments which received cadres linking them to a common origin. From the regiments, the genes were passed to the divisions, corps and even to Allied airborne army. Their numbers were different, but each American airborne unit was and remained a blood brother of the others. The triumphs of one were celebrated by all without jealously or envy.[20]

Figure 2. Members of the U.S. Army Airborne Test Platoon

Source: Gerard M. Delvin, *Paratrooper! The Saga of U.S. Army and Marine Parachute and Glider Combat Troops During World War II* (New York: St. Martin's Press, 1972), 73.

Evolution of Air Mobility Operations

> To most of us a helicopter is above all the fulfillment of an ancient dream of humanity, the complete and final conquest of the air. It is a flying machine, which allows the flier to do anything a bird can do, and more. In still air few birds can hover like a helicopter, and no bird can fly vertically upwards, backwards or sideways, take off straight up and land straight down.[21]

The helicopters capability to takeoff and land vertically, as well as its ability to hover has made this aircraft a unique, and versatile mode of aerial transportation. Throughout the history of flight, more emphasis had been placed on fixed-winged aircraft than rotary-wing; however, vertical flight was the first flight envisioned by man. The origin of vertical flight can be traced back through centuries of antiquity to early Chinese experiments.[22] The manuscript *"Pao Phu Tau"* written during this period, describes how the "Master" envisions a flying object with wood from the inner part of the jujube tree

with ox-leather straps fastened to returning blades as to set the machine in motion. This is the first recorded pattern of what can be understood as a helicopter.[23]

In 1493, Leonardo da Vinci drew an illustration of the first machine with the potential to achieve mechanical vertical lift, called the Helical Air Screw in his *Codex Atlanticus Manuscript* with the following written observation. " I have discovered that a screw-shaped device such as this, if it is well made from starched linen will rise in the air if turned quickly." His theory for "compressing" the air and to obtain lift was substantially similar to that for today s helicopters. Da Vinci's design would work theoretically, but the concept was not put into practice. However, this design is considered to be the first theory of a working helicopter.

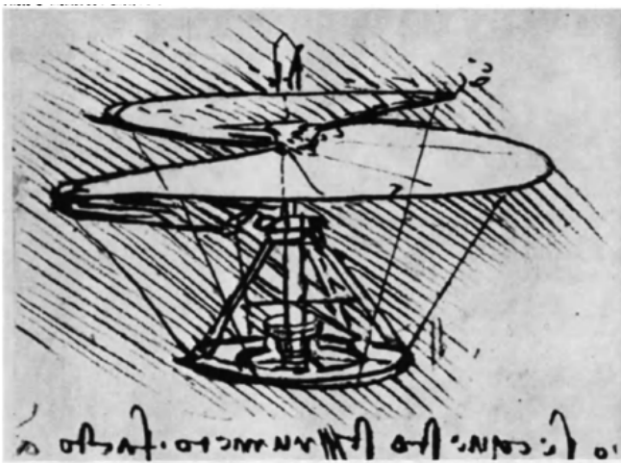

Figure 3. Leonardo da Vinci Codex Atlanticus Manuscript (Helicopter)

Source: Bruno Nardini, "Leonardo DaVinci as Told to Children," *The Courier* (October 1974): 30, http://unesdoc.unesco.org/images/0007/000748/074877eo.pdf (accessed April 18, 2014).

Many great thinkers developed theories and models of helicopters throughout the centuries, but all these pioneers were missing two essentials: a true understanding of the nature of lift and an adequate engine. In the nineteenth century, the invention of the combustion engine made it possible for these pioneers to develop a prototype helicopter with an adequate power source. Once the helicopter was manufactured, it was then when many problems surfaced eg. Torque, the effect produced by the rotor to force the fuselage to rotate in the opposite direction of the engine.

In the beginning of the 20th century, these helicopter enthusiasts continued to experiment in an attempt to resolve the numerous problems that continued to appear as advancements were made. The dissymmetry of lift, caused these early helicopters to flip over, and confounded the early pioneers until the invention of the swashplate. The swashplate, with cyclic pitch control allowed the rotor blade angles to be altered so that lift would be equal on each side of the central shaft. On November 13, 1907, the French pioneer Paul Cornu lifted a twin- rotored helicopter into the air entirely without assistance from the ground for a few seconds.[24]

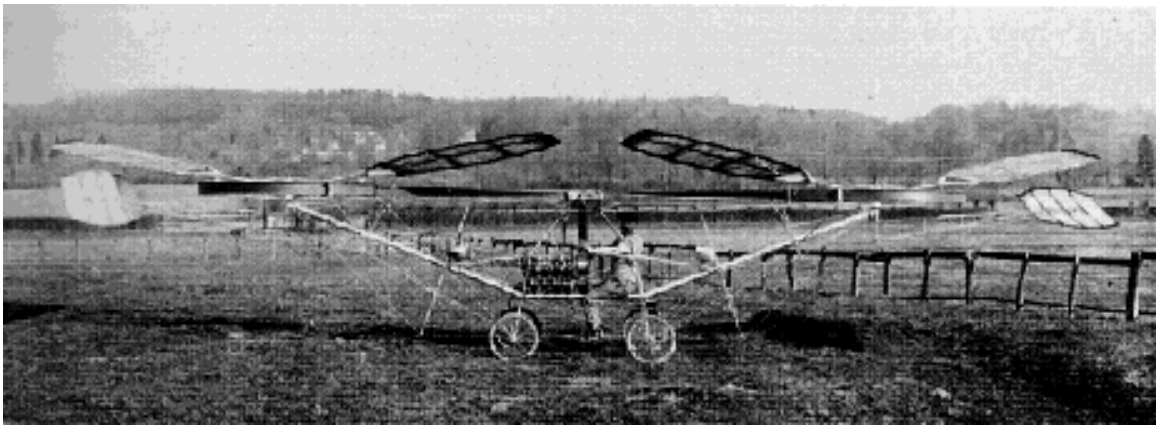

Figure 4. One of the First Helicopters Constructed by French Pioneer Paul Cornu

Source: J. Gordon Leishman, "A History of Helicopter Flight," http://terpconnect.umd.edu/~leishman/Aero/history.html (accessed April 18, 2014).

Although relatively little is know in terms of the U.S. military's interest in the concept of vertical flight. However, some activities can be traced back to the Air Service and the decision of the War Department in 1917, to establish an engineering laboratory at McCook Field in Dayton, Ohio. Throughout the years of 1918-1922, the Engineering Division at McCook Field conducted experimentation and testing in the development of an aircraft capable of vertical takeoff. It was not until Major T. H. Bane, Chief of the Engineering Division in 1920, and a small group of officers had conducted extensive research into the area of helicopter engineering that they discovered a relevant theory.[25] They discovered the engineering studies of Dr. George de Bothezat, and his theories of an aircraft capable of achieving vertical flight. On June 1, 1921, Dr. Bothezat agreed to furnish drawings and data, to design, construct, and supervise flight test of a helicopter. On December 18, 1922, the first helicopter flight took place at McCook Field reaching an

altitude of six-feet and remained airborne for one minute and forty-two seconds. This historical event was the first accomplishment the U.S. achieved in the helicopter field.[26]

Despite this accomplishment the Bothezat project never flourished. The aircraft was thought to be too complicated in structure and too difficult to fly.[27] Even though the Army's enthusiasm for further development of such craft waned for several years, the inadvertently set the stage for the rise of an entirely new method of warfare. The evaluation of the project by one author is particular interesting.[28]

> The Bothezat episode is significant only in the light of what it subsequently led to, the construction by the same inventor of a much simpler, more compact helicopter of which was testified before the House Military Affairs Committee: This would give rise to an entirely new method of warfare, battalions of swift and silently-flying machines guns, able to land at night behind the enemy's lines, even in rough country.[29]

Even though the military interest in the helicopter declined, engineering, development and testing continued into the 1930 and beyond. It was not until the May 6, 1941, that the first successful helicopter was introduced to the Army Air Forces by Igor I. Sikorsky.[30] After 30 years of struggling with design, power plant, rotor systems, anti-torque devices and configuration; Sikorsky impressed the Army Air Force observers with his unparalleled helicopter flight. Piloting his VS-300 helicopter, the aircraft remained aloft for 1 hour, 32 minutes and 26.1 seconds. This significant event was enough to convince the Army Air Force that there was enough idea in rotary wing aircraft to merit an injection of taxpayer dollars. On May 6, 1942, Igor I. Sikorsky delivered the first U.S military helicopter to the Army Air Forces, and the age of the helicopter and its military application had arrived, albeit in its infancy.[31]

Although a practical and successful helicopter had been introduced in 1942, it was not widely employed in World War II. A few of these helicopters saw Army Air Corps

field duty during the last months in the rear areas of such widely separate fronts as Europe, Burma, Okinawa, New Guinea, and the Philippines. Rescue, liaison, and supply missions were conducted and reported; however, the helicopter was still in its tactical swaddling clothes when World War II ended, and the problems of bringing up the infant up to maturity was left to the future.[32] Even at this experimental stage WWII visionaries began to speculate on the potential employment of helicopters as an aerial weapons platform. Pioneers such as Colonel Hollingsworth Gregory would plant the seed for the future developments of the armed helicopter.[33]

The first recorded use of a U.S helicopter in combat came in April 1944, in the China-Burma-India Theater of WWII. A Sikorsky R-4 helicopter was used to rescue a downed pilot and three wounded soldiers in the jungles of Burma. However, North Korea's invasion of South Korea on June 25, 1950 was the catalyst of the employment of helicopters in combat. When the first Marine brigade landed in Korea in August of 1950, it had six organic helicopters from the first Marine Helicopter Squadron (HMX). This was the first military unit in history to employ helicopters in combat. HMX 1 would have a significant impact on the war, and one year after there arrival in theater an aviation milestone was reached. "On 21 September 1951, the idea of vertical envelopment by helicopter became a reality when a company of U.S. Marines was airlifted by helicopter to the summit of Hill 884 in Korea."[34]

The period from 1950 to 1954 Army aviation began to assume its present form, and emerge as a separate entity. In 1951, the U.S. Army helicopters began flying medical evacuation (MEDEVAC) mission. Between their rescues of downed airmen, isolated ground troops and flying ambulance mission; U.S. helicopters were credited with saving

tens of thousands of lives during the War. During the latter part of the conflict, larger more capable helicopters were introduced.[35] The Army and Marines would demonstrate the usefulness of vertical lift aircraft in the tactical movement of troops and supplies. This laid the foundation upon which the vast aviation structure of the Vietnam war was built.

The employment of air power in Vietnam had a significant impact on the way wars were fought for the Twentieth century and beyond. During the interim period between the Korean and Vietnam war, there was a large interest in the development of the helicopter, which could deliver hovering firepower and vertical lift dimensions for use in combat operations.[36] These new technological advances in the helicopter and weapons systems made Vietnam a testing ground to a near-revolutionary change in land combat tactics and doctrine. New tactics in air mobility operations to include: air assault, air cavalry, aerial artillery support and aerial supply lines were used and to varying degrees of success. Vietnam also introduced the attack helicopter as a vital weapon, and it dawned a new age of tactics for the U.S. military.

In 1962, Secretary of Defense McNamara called for the U.S. Army to research "land warfare mobility."[37] The Army Tactical Mobility Requirements Board (Howze Board) was formed to develop and recommend courses of action for Air Mobility Operations.[38] The Howze Board studied, analyzed, and tested the problems; and concluded two major organizational changes for Army aviation. The formation of the airmobile division (air assault) and the air cavalry combat brigade.[39] The air assault division would be organized with three brigade headquarters, an air cavalry squadron, eight airmobile infantry battalions, and divisional artillery.[40] This resulted in the activation of the 11th Air Assault Division (Test) and its associated 10th Air Transport

Brigade at Fort Benning, Georgia in 1962, under the Command of Major General Harry W.O. Kinnard. After three years of testing, an entirely new division was created. The 1st Cavalry Division (Airmobile) represented the first airmobile combat force in history, and a landmark in the evolution of U.S. Army organization.[41]

Evolution of Personnel Recovery Operations

Code of an Air Rescue Man

> It is my duty, as a member of the Air Rescue Service, to save life and aid the injured. I will be prepared at all times to perform my assigned duties quickly and efficiently, placing these duties before personal desires and comforts. These things I do so THAT OTHERS MAY LIVE.[42]

The American people will support our Nation Wars if they believe the cause we are fighting for is worth the cause. They also understand that in war, we expect to take losses. However, the American people also believe that the U.S. government will exhaust all available means to return their love one's home if they are isolated or detained. Our warrior ethos, which comes from this belief, is ingrained with the expectation that we will "Leave No One Behind" and that "Some-one Will Come." This enduring moral imperative remains an essential element of the way that our nation fights its wars.[43]

The Early history of personnel recovery operations dates back thirty-three years before the Wright Brothers flew their plane at Kitty Hawk, North Carolina. In 1870, the first known aerial rescue occurred in Paris during the Franco-Prussian War. The French used observation balloons to escape the Prussian Artillery, and evacuated by airlift some 160 wounded Soldiers who otherwise would have died or been captured by on charging troops.[44] The first recorded use of an airplane to attempt the recovery of a downed airmen occurred at the 1911 Chicago Air Meet, when a participant landed his hydroaeroplane on

the water in an attempt to rescue a fellow participant who had crashed into Lake Michigan. The downed pilot refused the rescue, preferring instead to take an approaching boat back to shore.[45]

Figure 5. Recovery of a Downed Airmen (Chicago Air Meet 1911)

Source: Photo courtesy of Mike Fleming, December 18, 2004, http://earlyaviators.com/ejohncroi.htm (accessed April 18, 2014).

Even though early history establishes the dawn of personnel recovery operations, it was almost non-existent during World War I. During this period the first successful rescue of an down pilot is credited to Charles H. Hammann, Ensign, US Navy, in the Adriatic Sea flying an Italian built Macchi M-5 flying boat. Seeing his wingman shot down by an Austrian Albatross, Ensign Hammann landed in the sea near the downed airman, recovered him and returned to Italy. For his actions Ensign Hammann became the first naval aviator to be awarded the Congressional Medal of Honor.[46] Lamentably due to the primeval technology of the airplane, and its inability to provide the downed pilot much chance of survival, these rescues were the exception not the norm.[47]

The period of World War II saw the developments of the technology and equipment that would contribute as the basis for modern air rescue capability. This period saw two major advancements in the technology of air warfare. The airplane became a bigger, faster and more capable aircraft, and the helicopter would revolutionize air rescue.[48] Most historians trace the beginnings of combat rescue to the Battle of Britain in 1941. In which, the British Royal Air Force fought a desperate battle against the German Air Force for control of British air space to prevent a Nazi invasion of Britain. It was during this battle that both Germany and England quickly realized the need for an air-sea rescue capability to recover downed airmen that crashed into the English Channel or the North Sea.

Following the entry of the United States into the War, Air-Sea Rescue would gain importance. The U.S. had not developed an organization for the return of downed airmen at the beginning of the War. The U.S combined its operations with the British and conducted operations with the Royal Air Force (RAF), and then develop their own techniques and procedures. By the end of the war in Europe the combined efforts of the British and American rescue units claimed 5721 airmen rescued from the waters surrounding Great Britain and an additional 3200 airmen worldwide.[49]

The China-Burma-India (CBI) Theater saw the introduction of the helicopter to rescue personnel from behind the enemy lines.[50] In March 1944, an Army Air Force R-4 helicopter was used to evacuate a pilot and three wounded soldiers, in Burma.[51] Helicopters would be deployed only in very small numbers during World War II, but the concept of combat rescue was deep-seated. Five years after the end of World War II, helicopters and the tyro rescue community would again be called to service in Korea.[52]

The Korean war saw the use of helicopters in significant numbers. It also offered the first test for search and rescue organizational tactics developed in World War II. For the performance of search and rescue functions in June 1950, the Far East Air Force (FEAF) possessed the 2d and 3d squadrons of the Air Rescue squadrons, which were part of the Air Rescue service a subordinate command of the Military Air Transport Service. In August 1950, the 3d Air Rescue squadron pioneered the employment of new search and rescue equipment and techniques, which for the first time as a standing procedure included the rescue of stranded personnel from behind enemy lines. The technique of using fighter aircraft to escort rescue aircraft was refined, and as a secondary mission, the Air Rescue service performed emergency front-line medical air evacuation tasks. In fulfillment of this secondary task, the aircrews evacuated a total of 8, 598 men, most of whom were front-line ground casualties.[53]

The Vietnam war was the proving ground for personnel recovery. Even though the Korean war saw the use of helicopters in significant numbers; Vietnam established the basis of the operating procedures and tactics we see today. The introduction of newer more powerful helicopters capable of higher speeds, longer operating ranges and inflight refueling systems; the testing and experimenting of new tactics to include: response time and threat reductions;[54] and the model that would serve as the basis for planning of Joint Special Operations Forces (SOF) mission in the future.[55] The US experience in the Vietnam war stimulated the need for an effective personnel recovery system. By 1975, 2,780 lives had been saved in combat rescues by Air Rescue units.[56]

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[4]Ibid.

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[6]Ibid., 20-21.

[7]Ibid., 22.

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[9]Hickey, 13-14.

[10]Delvin, 22-23.

[11]Hickey, 14.

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[51]Clapp, 10.

[52]Martini, 61-62.

[53]Robert Frank Futrell, *The United States Air Force in Korea 1950-1953* (Washington, DC: Government Printing Office, 1983), 576-584.

[54]"USAF Combat Rescue Analysis of Alternatives: Combat Rescue Operational Review, A Summary of Combat Rescue Operations from Vietnam to Kosovo," 29.

[55]Son Tay Raider Association, "An Historic Operation," http://www.sontayraider.com/history.htm/ (accessed 21April 2014).

[56]Martini, 35-36.

CHAPTER 3

PATHFINDER ORIGINS

21st Independent Parachute Company "The Original Pathfinder's of the British Airborne"

> I have heard from every side how outstanding your company has done. To have earned this special praise from such a gallant body can only mean one thing- that "your unit is unsurpassed by any other in the world."[1]
>
> — Lieutenant General F.A.M Browning,
> Commander, 1st British Airborn Division

1. W/O Keirnan and Sergeants of the Company, Italy, 1943. (*Standing l. to r.*): Sgts. Gordon (ACC), Marks (RC of S), Binick, Brown, Carter (REME); *seated:* Sgts. Wilkins, Taylor (RAMC), Kent, W/O Keirnan, Anderson, Yates, Smith; *foreground:* Sgts. 'Gremlin' Jones and Pickering.

Figure 6. 21st Independent Parachute Company Pathfinders

Source: Ron Kent, *First In! Parachute Pathfinder Company* (London: B. T. Batsford, 1979), 77.

Bravery, esprit-de-corps and professional skill were the hallmark of the 21st Independent Parachute Company, the original Pathfinders of the British Airborne Forces. This company was unique in that no other airborne force (enemy or allied) had anything

similar. Founded by Major John Lander, this company of 180-Pathfinders would pave the way for what would become an integral component of a new form of warfare, that came to be known as “vertical envelopment.”

British airborne reached its pinnacle on March 24, 1945 during Operation Varsity where the 6th British airborne division alongside the 17th U.S. airborne division were a vital part of the Second British Army's wider Rhine crossing (Operation Plunder). These paratroopers were dropped in their designated DZ and LZ east of the Rhine around the Diersfordt forest and the village of Hamminkeln. Despite intense anti-aircraft fire the entire division was on the ground within one hour of the first paratrooper exiting his aircraft. Within four hours the 6th airborne division’s objectives had been secured, and the link-up with the lead elements of the Second British Army had been achieved.[2] Suffering approximately 300 casualties, the 6th airborne division neutralized a portion of the German indirect fire threat, and prevented enemy reserves from gaining a foothold by securing the bridges over the River Issel. This set the conditions for the second British Army to gain an advantage and push further west. It was an extraordinary feat considering that just five years before the British military establishment had no concept of vertical envelopment.[3]

The success of German airborne operations during the invasion of Western Europe particularly on May 10-11, 1940, with the capture of the impregnable Belgian Fort of Eben Emael dramatically underlined their potential on the battlefield. The operation was executed with seventy-eight glider-borne troops, which suppressed more than a thousand Belgian soldiers to capture the fortress.[4]

This demonstration of power emphasized to Britain's military and political leaders just how compelling the airborne strategy could be, if used properly.

Winston Churchill only recently appointed as Prime Minister, was so impressed with the capabilities of the airborne forces that he became convinced that a British airborne force needed to be established. On June 22, 1940, he instructed General Hastings Ismay, then head of the Military Wing of the War Cabinet Secretariat, to set in motion the formation of 'a corps of at least five-thousand parachute troops.'[5]

> We ought to have a corps of at least 5,000 parachute troops, including a proportion of Australians, New Zealanders and Canadians, together with some trustworthy people from Norway and France. I see more difficulty in selecting and employing Danes, Dutch and Belgians. I hear something is being done already to form such a corps, but only I believe on a very small scale.[6]

However, this came at a time when the British were still recovering from the loss of their combat power in France and Belgium. The creation of such an offensively minded force was largely irrelevant to the Army's senior leadership. Consequently, the development of an airborne force was extremely protracted, and not vigorously pursued during this period.

Britain's top priority was to reconstitute and organize quickly, to prepare for a possible Nazi invasion. This required replacing personnel and the equipment, which was left behind in France and Belgium. It also presented significant challenges for Britain, especially when industry was still moving towards a war footing and shortages to replace equipment were at an all time high.[7]

Furthermore, there was shortage of available aircraft; a certain understandable reluctance on the part of the Royal Air Force (RAF) to accord the Army Air Corp any sort of priority, and most importantly there was no policy as to how the proposed

parachute force was to be developed and used. All options seemed a long way from the five thousand paratroopers Churchill envisaged, and the numbers the Army senior leadership realistically would be able to deliver. As General Ismay pointed out that while 5,000 parachute troops was still the ultimate target 500 represented an intermediate aim, and was more realistic in the short term with the resources available.[8]

The Director of Combined Operations, Admiral Sir Roger Keyes during the 250th meeting of the Chief of Staff (COS) Committee on August 6, 1940 mentioned that out of the 3,500 volunteers for parachuting duty only 500 were selected for training. At this time Churchill reiterated his requirement for 5000 trained and equipped paratroopers.

On September 1, 1940, Prime Minister Churchill requested a full report on the progress being made to develop the airborne arm. General Ismay responded with a proposition that instituted both the training of paratroopers, and recent thoughts on glider development. This report lucidly presented that an operation would only require a force of 1000 men, of which only 100 needed to be parachutists, the rest being glider-borne. Taking into consideration multiple operations and the need for a reserve, General Ismay recommended a total airborne force of 3200 men of which 500 needed to be parachutists. Prime Minister Churchill approved the proposition, and instructed General Ismay to continue with the development of the airborne forces. General Ismay took a significant risk, considering that the gliders needed to deliver the rest of the airborne forces were still largely confined to the drawing board.[9]

The German airborne operation during the invasion of Crete in May of 1941 crystalized the beginning stages of the British airborne arm. However, before the battle for Crete in May of 1941, Prime Minister Churchill had already cemented his vision on a

British airborne doctrine. He envisioned the development of an airborne division based on the German model, with improvements that would suggest a better airborne force. This vision set the conditions for creating the Central Landing Establishment (CLE), at RAF Ringway, near Manchester, in June of 1940 to train the British forces in parachuting techniques. It was during the initial training phases that British planner's identified the glider as a multi-faceted airborne delivery vehicle, which would do more than increase the number of paratroopers airdropped. Gliders were incorporated into the airborne model, and would become the primary air-land reinforcement method.

On April 26, 1941, Churchill visited the CLE to observe an airborne demonstration. What he witnessed was a graphic display of the lack of progress that had been made over the course of 10 months, since he had approved General Ismay's proposal. Despite the poor performance by both the CLE and the Air Ministry Churchill was not unimpressed, but somewhat disheartened by the paucity of paratroopers and the sluggish pace of glider development.[10]

Upon his return to London, Churchill reviewed the program, and on May 27, 1941 he sent a personal letter to the COS committee in which, he blamed both himself and the Air Ministry for lack of progress made to the airborne project. Additionally, he impressed upon the COS committee that establishing an airborne force in his opinion, was not an expensive luxury, but that it would be necessary for future offensive operations in the Mediterranean and the Middle East.

Churchill placed the problem directly on the COS committee, and stated "a whole year has been lost, and I now invite the Chiefs of Staff to make a proposal for trying, so far as is possible, to repair this misfortune."[11] This memorandum re-focused the airborne

arm as one of the top priorities for the COS committee, the Army and the Air Ministry. The British immediately began training three distinct types of troops consisting of parachutists, glider infantry, and air-land infantry.

On February 10, 1941 a fledgling force of British paratroopers were given their first mission, a small-scaled night raid against an Italian aqueduct on Monte Volturno to cut off the water supplies to several important ports. Of nearly 40 men who jumped that night, most landed within a mile of the objective, and were able to blow the aqueduct. However, over a short period of time all 40 paratroopers were captured or killed.[12] Approximately a year later, on February 27, 1942 the British paratroopers were given a second mission by the Combined Operations Command. An airborne raid to capture a German radar station and secure the radar. The mission was led by Major John Frost and 119 officers and men of the British, 2nd Parachute Battalion off the Normandy coast at Bruneval. The night parachute jump was altered by German anti-aircraft fire, which caused two aircraft to miss the DZ; however, Major Frost and his men succeed in securing the radar, linked-up with the men from the two aircraft that had gone astray, and boarded the extraction boats waiting for them near the beach.[13] These two operations epitomized British airborne undertakings until larger Allied operations began in earnest in North Africa. Nevertheless, lessons were being learned from these early beginnings, and from a study of the German airborne operations of 1940 and 1941.

German airborne successes initiated the development, implementation, and doctrine of the airborne arm in both the British and United States Army. It established an offensively minded force, when its future enemies continued to think primarily in terms

of defensive land warfare. Furthermore, it established the rudimentary principals of employment and tactics for airborne forces.

It must be mentioned, that one of the fundamental principle's or a successful airborne operation is the ability to maintain temporary or local air superiority as an absolute necessity. The Germans were able to achieve this fundamental principle, which afforded them the ability to conduct daylight vs. nighttime operations during the early stages of the war. By having this ability they did not foresee the dispersion of paratroopers on the intended objective as a significant problem. It was not until the Germans confronted the allied air superiority, that they were forced to conduct nighttime airborne operations.[14] While conducting nighttime airborne operations, they discovered that the delivery of paratroopers accurate to the objective presented a significant problem. In order to mitigate this deficiency they began to develop techniques to accurately drop the paratroopers on their intended objectives. In 1942 the Luftwaffe's Airborne School began training on night parachuting techniques to meet airborne operation requirements.[15]

In combat, the Germans made night jumps on only one occasion, during the Ardennes operation. Executing a nighttime airborne operation presented two main difficulties, identifying/locating the drop point and establishing contact to assemble after landing. To locate the drop point, which had to be reached accurately by every aircraft within a few hundred yards a small radio transmitter, so-called radio buoy (Funkboje) was released over the drop zone by a pathfinder plane flying ahead of the troop carriers. This would then provide a radio signal that would help to identify a more precise drop point. The technique proved promising, however, it was never perfected.

A second manner devised was the use of the incendiary bomb field (Brandbombenfeld). Two fields of incendiary bombs were dropped on the ground by the pathfinder plane, at both the leading and trail edges of the DZ providing naviagational aid for the mainbody aircraft. The Junker 52 aircraft carrying the paratroopers dropped the jumpers halfway between the two incendiary-bomb fields, minimizing the scattering of the force throughout the intended DZ. There are indications that this technique was utilized during the Ardennes Operation.[16]

A study of the German Airborne Operations of 1940 and 1941 failed to reveal to the allied forces that the success of these operations would be considerably enhanced, if a small body of men could be dropped with pinpoint accuracy to secure and mark the DZ and LZ. These men would be dropped approximately thirty minutes in advance of the main body, so as not to lose the element of surprise. Once on the ground they would have to act swiftly and efficiently. Specialized training and equipment was needed to gain the optimum capacity to maximize assistance to the mass formation of aircraft that would follow.[17]

Airborne forces, as with most elite military units, were not created overnight, but rather, were molded and shaped by men of foresight, vision and determination. As the function of developing the British airborne arm continued, men like Major J.F. Rock and Major John Lander set the foundations, and led the way to develop the British airborne arm.

Major Rock was assigned to the CLE, on June 21, 1940, and given the task to develop the training of the airborne force. He began with a small volunteer force of commandos, and an example of the German airborne achievements. Upon his arrival at

CLE, he immediately began conducting the initial experiments and trials for the parachute training program and the glider-borne operations. He established the model for the British airborne and glider-borne operations, and set the stage for major developments in this strategy. Available literature traces this development directly to his early days at Ringwood.

As efforts towards developing the British airborne arm progressed, studies, analysis and lessons learned from German nighttime airborne operations accentuated a significant problem with the accurate delivery of the parachuting troops to the intended drop point. Although the British had not yet experienced any significant problems in delivering their Commandos to their intended drop points, they realized at the outset, the need to develop a technique to deliver their parachuting troops to the drop point accurately. They were the first to recognize the need for a group of specially trained paratroopers who would not need to be dropped so far in advance of the main body, thus maintaining the element of surprise. This function would be assigned to the 21st IPC, and their Commander Major John Lander, whose brainchild it was.[18]

On June of 1942, Major Lander gets the 'go ahead' from Lieutenant General F.A.M Browning, the General charged with the task of raising and training Britain's first Airborne Division. It was at this time that Major Lander began to recruit and train the 180 men that would become the 21st IPC. To assist him he had Wing Commander P. May and his 38 Wing of the Royal Air Force, and two complementary pieces of ingenious equipment the 'Eureka' and 'Rebecca.'[19]

In the winter of 1942, Major Lander and his men began experimentation to determine the necessary equipment and navigational aids needed. Also a method of

transportation for these units needed to be devised. They experimented with both electronic and visual navigational aids, and concocted a method for carrying this equipment on the jump. This work led to the development of Pathfinder TTPs, and the original Pathfinder doctrine.

The electronic aids consisted of the Eureka beacon and the Rebecca receiver. The Eureka ("I found it") was a radar device inspired by General F.A.M. Browning. "It was a 75-pound man packed radar beacon, carried by a single Pathfinder on the jump, and set-up on the DZ for the transport aircraft to home in on it. It was used with its counterpart Rebecca. The Rebecca was mounted on the transport aircraft and transmitted on the Eureka's frequency, and received on its transmitted frequency. By planning and allocating one of the five frequencies, in which the Eureka could transmit and receive on, it was possible to identify the correct Eureka for each aircraft on the respective DZ. In addition, on receiving the impulse from the aircrafts Rebecca, the Eureka on the DZ replied automatically. From the Rebecca the aircraft navigator was able to read his distance from the DZ, and his compass bearing to it. The TTP used by the pathfinders on the ground was to switch on the Eureka's fifteen minutes prior to the main body aircraft were due to arrive, and switch it off twenty minutes after the main drop. Of note: their was no radio voice communication between the aircraft and DZ."[20]

While conducting airborne training exercises, Major Lander would drop a team of Pathfinders with the required electronic and visual equipment necessary to carry our their assigned mission. It was during these exercises, that the metal containers used to carry the Eureka radar and other navigational aids were found to be unsatisfactory. They would either fail to arrive, or land at a distance that was too far for the Pathfinders to use them.

From the lessons learned, Major Lander began to experiment with alternative means for transporting and carrying such heavy equipment on a jump. He designed a special bag 'Kitbag' that would carry up to 60 lbs. in weight, and would be strapped to the paratroopers' leg. Upon exiting the aircraft and the chute deploying, the Pathfinder would pull a quick release, and lower the kitbag to the end of a twenty-foot rope securely tied too his webbing waist belt. The kitbag proved to be a viable piece of gear to carry the navigational equipment, and it help with both oscillation (on the descent) and landing (cushioning effect).[21]

Figure 7. Eureka AN/PPN-1A

Source: Jeff Moran, *American Airborne Pathfinders in World War II* (Atglen, PA: Schiffer Publishing, 2003), 10.

Continuing with developing the Pathfinder tasks, the 21st IPC tried to provide close range visual aids to pilots, and designate specific areas or points on the DZs and LZs. These visual aids consisted of white nylon panels about a 1-meter wide and 4-meters long, each weighted with steel rods for daytime operations. The panels were used

to form code letters that would designate the DZ or LZ. They also signaled the direction of the wind for landing by using the code letter ‘T’. Additionally, colored smoke canisters were used in daytime operations to mark the designated DZ. However, deploying night zone markings was a grueling task.

The specially designed lights were heavy, shatterproof, and had a heavy-service rubber clad electric cable, along with a 12-volt battery. These lights were designed so that no light was exposed at ground level, and the reflectors were angled so as to only be visible from the right height and angle. The design of these lights and their corresponding cases (B-3) made both the jump and their deployment very cumbersome for the Pathfinders. The attachment and separate canvas case needed to carry the battery further hampered the jumps timing efficacy. The case was attached, to the parachute harness, by a rigger made harness, and then it was attached just below the reserve parachute. A special canvas case was made for the battery to be carried separately during the jump. Each Pathfinders stick would carry eight lights, seven for the ‘T’ and one for reserve.[22] Lessons learned from these night training exercises established a significant lag time between the landing of the Pathfinders and the arrival of the main body. Therefore, it became necessary to drop the Pathfinders an hour prior to the main body’s drop.[23]

Figure 8. Aldis Lights

Source: Jeff Moran, *American Airborne Pathfinders in World War II* (Atglen, PA: Schiffer Publishing, 2003), 10.

Major Lander and his Pathfinders continued to train the tactics, techniques and essential tasks needed to carry out the Pathfinders mission. The development of these tactics and essential tasks also required extensive training of the navigators of the 38 Wing of the RAF. The 21st IPC needed the utmost confidence in both the pilots and navigators of the Wing to carry out these critical tasks.

Training maneuvers would drop Pathfinders from Whitley bombers, and would have them deploy radar bacons (Eureka) and visual aids, in both day and night operations. Dummy parachutes would be dropped from the 38th wing aircraft, and their position in relation to the point of impact would be recorded. Major lander continued to refine the process until the accuracy of the dropped dummies fell to within 100-yard circle.[24]

Training and developing of the Pathfinders tasks and TTPs continued until April of 1943, when the company was alerted for duty in North Africa. Here they carried out their specific role as ‘Pathfinders’ and their wider role as an Independent Company

subject only to the directions from the Brigade or Division commander to whom they might be assigned.[25]

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[1]Ron Kent, *First In! Parachute Pathfinder Company* (London: B.T. Batsford, 1979),136.

[2]T. B. H. Otway, *The Second World War 1939-1945, Army: Airborne Forces* (London: Imperial War Museum, 1990), 305.

[3]Ibid.

[4]Ibid., 22.

[5]Kent, i.

[6]W. F. Buckingham, 'The Establishment and Initial Development of British Airborne Forces" (Thesis, University of Glasgow, 2001), 88.

[7]Victor Dover, *The Sky Generals* (Cassell: Littlehampton Book Services, 1981),108.

[8]Ibid., 109.

[9]Otway, 30.

[10]John William Greenacre, "The Development of British Airborne Forces during the Second World War" (PhD diss., School of History, University of Leeds, August 2000), 156.

[11]Ibid., 36.

[12]John A. Gavin, *Air Assault: The Development of Airmobile Warfare* (New York: Hawthorn Books, 1969), 29-31; Hickenbottom, 52.

[13]Gavin, 76-78; Hickenbottom 52-54.

[14]Helmuth Reinhardt, CMH Publication 104-13, *Airborne Operations: A German Appraisal* (Washington, DC: Center of Military History, 1989), 2-3.

[15]Ibid., 52.

[16]Reinhardt, 53; Hickenbottom 52-54.

[17]Kent, i-iv.

[18]Ibid.

[19]Ibid., 1-3

[20]Jeff Moran, *American Airborne Pathfinders in World War II* (Atglen, PA: Schiffer Publishing, 2003), 10.

[21]Kent, 12-13.

[22]Moran, 19.

[23]Kent, 14.

[24]Ibid., 15.

[25]Ibid., 16.

CHAPTER 4

PATHFINDERS IN WWII: MEDITERRANEAN AND EUROPEAN THEATER OF OPERATIONS

The Commencement of the U.S. Army Pathfinders

> It is from our own experience that we find the best lessons for the future – but as it will always be limited we must also make use of the experience of others[1]
>
> — Field-Marshal von Moltke

Operation Torch

The U.S. Army's inauguration of the airborne effort came as a hard lesson in November of 1942 during the Allied invasion of North Africa, code named Operation Torch. The 2nd Battalion, 503rd Parachute Infantry Regiment (PIR) (later re-designated the 509th) was the only U.S. Army airborne unit stationed in the United Kingdom, and would join elements of the British 1st Airborne Division in assaults on Vichy French airdromes. These operations were carried out inland from the invasion beaches near the port of Oran. It was a concluded that the relatively experienced 60th Carrier Group, which had been training with the Battalion since August, would provide the lift.[2]

What had not been addressed prior to Operation Torch, was the fact, that just a few months earlier the new Field Manual (FM) 31-30, "Tactics and Technique of Airborne Troops," had been released in May of 1942. The manual detailed for paratroopers to seize landing areas by parachuting on to the objective, and to then be reinforced by troops arriving by glider or plane. In essence parachute troops were considered "the spearhead of a vertical envelopment or the advance and guard element of air landing troops or other forces."[3] Not everyone agreed with this proposal. American

leaders had various concepts as to the employment of airborne operations. Some believed that the concept of airborne warfare should operate in small groups against key communication and supply installations in enemy rear areas. Others like Major General Lesley J. Mc Nair, Commanding General of the Army Ground Forces, and his staff officers held to a concept of using infantry divisions in airborne operations. They believed that such training would not only prepare infantry divisions for the exploitation of air assaults, but it would lend a greater strategic flexibility in any employment. In their view this provided the ability to shift divisions by air rapidly to new battlegrounds, which would be equivalent of adding divisions to a commander's total force.[4]

It was difficult to agree on a concept of how airborne troops would conduct operations, since no American airborne troops had yet participated in any these operations. Much of what FM 31-30 presented remained valid in the test of combat. However, many details still needed to be worked out, and in August of 1942 it was clear to the Airborne Command (activated on March 21, 1942 to establish unity of effort between the "Airborne" Army Ground Forces and Army Air Forces) that some standardization in procedures had to be addressed.[5]

The Airborne Command proposed that a board consisting of air and ground officers should convene to develop and recommend standard techniques and operating procedures such as staff planning, troop loading, resupply, communications, command and control, formations and pilot-jumpmaster coordination for airborne-troop carrier operations. Specific requirements were prescribed to address altitude, speed, and practical work on the aircraft procedures. The decision was that a novice paratrooper would jump at an altitude of 1500 feet, and a minimum of 1200 feet was set for the early stage of

parachute training. An altitude of 800 feet was prescribed for operational training, and an altitude of 500 feet or less for an operational jump. In addition, a standard technique for the parachute jump and procedures for planning operations was developed: It was agreed that the aircraft should fly at speeds no less than 100 miles per hour, or more than 120 miles per hour for a parachute jump. Ten minutes to the drop zone, pilots were to sound an alert signal. Two minutes out, the pilot was to flash the red light over the door and the men would stand, and move to the parachute door. At the drop zone the pilot would flash the green light, which signaled the paratroopers to exit the aircraft.[6]

The Airborne Command published the results of the board in Training Circular 113 on October 9, 1943. This circular along with numerous other airborne training bulletins provided the most up to date airborne techniques and employment information. They defined training objectives, tactics and procedures for the employment of airborne forces, airborne and troop carrier commanders' joint responsibilities, technical matters dealing with loading the aircraft, and testing items to be loaded, jumped or worn. The majority of what was published in this literature dealt with technical matters and aircraft characteristics. The lack of available aircraft to conduct tough realistic training, and static training made the situation mostly dependent on what had been published. Tragically neither these bulletins or training circular 113 addressed the vital problem of how these paratroopers would arrive to their respective DZ or LZ once properly loaded on the aircraft. In addition, little thought was given to how the pilots of the troop carriers would find their respective DZ or LZ at night, under adverse weather and possibly under enemy fire. Unfortunately in spite of its deficiencies Circular 113 remained the basis for airborne doctrine throughout the remainder of the war.[7]

The lack of available troop carrier aircrafts prevented the airborne forces and troop carrier units to attain the high degree of training required to conduct combat operations. The Air Command had prescribed that this training should begin with small unit training and progress through a regiment-sized operation, culminating with a division size element in a full airborne operation. The chain of command was firm in their opinion that an airborne unit was not fully prepared to execute combat operations until this sequential training was completed in conjunction with the troop carrier elements. The completion of this training was deemed fundamental for conducting an airborne operation in combat.[8]

Despite the limited number of aircraft, troop carrier units trained C-47 crews in basic formation flying techniques, towing of gliders, and dropping paratroopers.[9] Even though these units had not received a thorough training they were sent overseas into a theater of operations. Both the airborne and troop carrier units would be confronted with the problems of airborne warfare for the first time in actual combat.[10] This meant that both the airborne and troop carrier units confronted many of the problems of airborne warfare for the first time in combat. At the same time general officers, troop carriers and airborne commanders looked anxiously to these airborne operations to improve doctrine, develop new equipment, and improve training. The experience gained from these operations, had a great impact on the development of future forces and future engagements.[11]

The 503rd PIR, and the 60th Carrier Group had been attached for training to the British 1st Airborne Division under the command of Major General F.A.M. Browning. The 503rd and the 60th Carrier Group would be available to conduct the first American

airborne mission. In preparation for the Anglo-American invasion of North Africa (Operation Torch) they began to conduct training exercises in England. On August 17, 1942 the 60th Carrier Group dropped a company of paratroopers from the 503rd PIR. It was the first jump by American paratroopers in England. Training continued over the course of four weeks. Airborne and troop carrier personnel conducted combined training almost daily, and every company in the battalion was dropped repeatedly. On September 16, this training culminated in dropping the entire battalion consisting of 33 planes of the 60th carrier group. The drop was conducted during daylight hours in good weather over a large DZ. It was very successful perhaps misleadingly so; all paratroopers landed on the DZ.[12]

On September 26, another major training exercise was conducted in Northern Ireland by the 503rd and the 60th. This iteration of maneuvers dropped two companies, and was conducted at dusk, during adverse weather. The outcome was not as favorable as it was during their previous training exercise. The troops landed two miles from their objectives.[13]

On November 7, Lieutenant Colonel (LTC) Edson Duncan Raff commanded the airborne segment of Operation Torch. The first U.S. airborne combat mission was conducted by the 503rd PIR. The 503rd PIR began the 1500-mile journey at night from the airdromes in England, flying over Spain and parachuting to capture the French airdromes near Oran. Almost immediately after their departure navigation errors, communications problems, and bad weather scattered the forces. The result, only 32 of 39 planes made it to North Africa. The other planes were scattered from Gibraltar to Tunisia, and only ten actually delivered their troops by parachute drop. The remainder of the

paratroopers off-loaded after the majority of the troop carriers, short on fuel, landed on the Sebkra d'Oran dry lake, and marched overland to their objectives.

Ultimately the soldiers that landed over the beaches during the amphibious assault captured the airdromes, not the paratroopers of the 503rd PIR. However, one week later, after repacking their own chutes, 304 men of the battalion conducted a second combat jump on November 15, to secure the airdrome at Youk-les-Bains near the Tunisian border. From this base, the battalion conducted combined operations with various French forces against the German Afrika Korps in Tunisia. On December 26, a third parachute drop was conducted at night for the purpose of blowing up an important railroad bridge six miles north El Djem, Tunisia. The mission was unsuccessful and the paratroopers were not able to find the bridge.[14]

Training exercises conducted in England, along with the invasion of North Africa (Operation Torch) began to substantiate the procedures specified by Training Circular 113. However, observers from the troop carrier units delivering the paratroopers reached various conclusions: First, troop carrier airplanes must be furnished in sufficient quantity to permit usage in airborne operations. Second, airborne and troop carrier units must have an opportunity to work together and understand the other's problems. It became obvious that the best-planned operation may fail due to lack of teamwork and cooperation.

Third, executing airborne operations with smaller size units could also accomplish desired missions.

It was apparent that airborne operations were not only to be employed in mass. Fourth, the circular had specified that night operations were not feasible unless a quarter moon or better was anticipated. This thought was abandoned, and it was recommended

that specialized paratroopers - “Pathfinders” - could provide navigational aid to extend nighttime operations.[15]

In retrospect, while it can be argued that Operation Torch was not an operational success from the airborne perspective, it was nevertheless a great instructional ground, both to polish and to define the tactical utility of airborne forces.

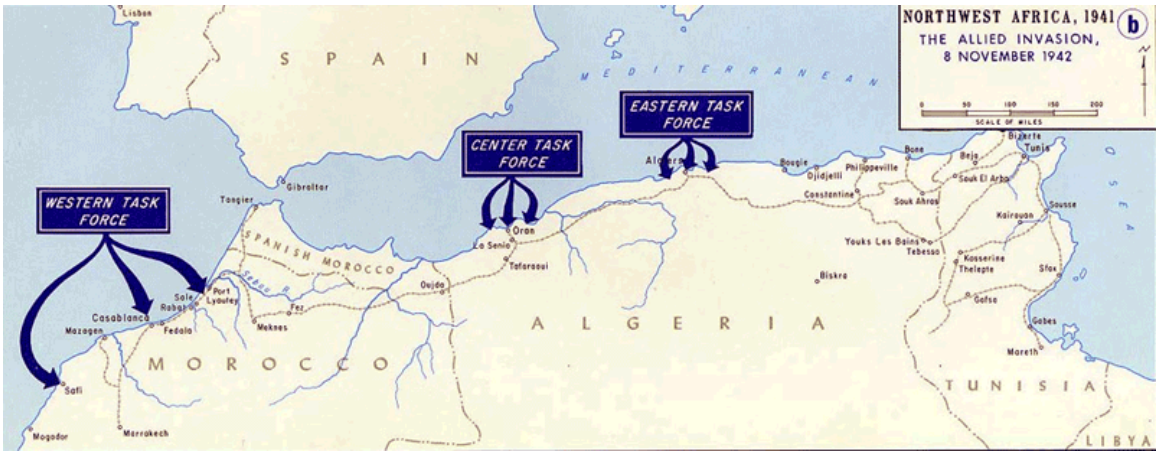

Figure 9. Operation Torch: Invasion Plan

Source: Wikipedia, “Operation Torch,” http://de.wikipedia.org/wiki/Operation_Torch (accessed April 18, 2014).

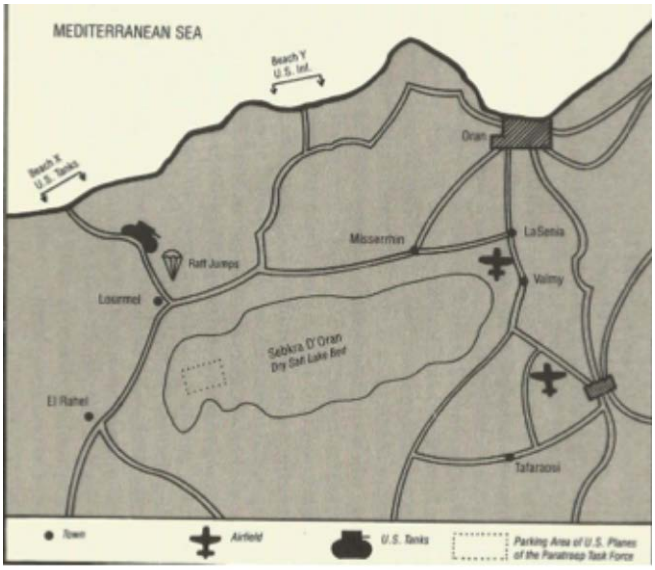

Figure 10. Operation Torch: Airborne Drop/Parking area of U.S. Planes

Source: Gerard M. Delvin, *Paratrooper! The Saga of U.S. Army and Marine Parachute and Glider Combat Troops During World War II* (New York: St. Martin's Press, 1972).

Operation Husky

> Little things going wrong can cause a great deal of confusion in combat, and a certain amount must be accepted as normal, but if "little things" go wrong in an airborne operation, you really have confusion.[16]

The Invasion of Sicily in July of 1943 is considered by Major General James Gavin to be the birthplace of the American airborne technique. Arguably, it can be said that the Airborne Army was conceived in the planning staffs and headquarters of the North African Theater of Operations and the U.S. Seventh Army. In Major General Gavin's words, "It is during this operation that the theories originally conceived, nurtured, and brought to apparent maturity without the test of battle were exposed to their first test. How well they fared, how well they fought, and what our airborne forces accomplished are questions not even partially answered to date. The toddling tot that later

became the first allied Airborne Army was born in Sicily and survived a very rugged delivery."[17]

The U.S. Army's historical portrayals of how the U.S. Pathfinders came into being is not well defined. However, they usually begin with Operation Husky, learned through the rugged delivery, and dispersion (approximately sixty-five miles) of the paratroopers of the 505th PIR conducting the airborne assault on Sicily.[18]

As formally mentioned the invasion of Sicily was the greatest trial to date for airborne operations. It was the first airborne operation for an American airborne division (though the entire division was not committed), and it was the first major airborne attack at night.[19] Unfortunately, the same problems that were experienced in Operation Torch once again surfaced in the airborne assault of Operation Husky.

As is often the paradigm in after-action reviews, the need for more training typically receives the most emphasis. Airborne operations in North Africa demonstrated that sufficient time for detailed planning was imperative. Observers recommended that not less than five days be allowed for operations involving a battalion or less, and ten days for larger units. It was also identified that detailed planning for airborne operations required a well-organized standard operating procedures (SOP). These SOPs should have been established long before going to combat; however, as mentioned previously, neither sufficient time, nor sufficient aircraft were assigned to conduct the required training.[20] Furthermore, extensive training on night navigation, and implementing the use navigational aids would be critical, in order to deliver parachute forces over long distances at night to their intended objective. Attempts to place radio homing device off the African coast to assist the C-47's in reaching their objective, were not enough to fire

the imagination of the command that a small-specialized group of paratroopers would be ideal for this employment.[21]

The questions still remains why did the U.S. Army still have no pathfinders prior to the invasion on Sicily, particularly when the experiences learned from Operation Torch, recognized the need for such a group of specially trained paratroopers? Would the outcome of Husky been different if Pathfinders had been formed and on the ground, prior to the main body parachuting in to their respective DZ? Before answering these questions, it is important to understand why Operation Husky itself was necessary.

Situation: The Casablanca Conference, held in January 1943, was a crucial meeting between President Roosevelt, Prime Minister Churchill and their respective senior advisors and military leaders. It was to decide where the next Allied operation was going to take place after the defeat of the Axis powers in North Africa. With the defeat of German and Italian forces in North Africa, Allied forces in the Mediterranean prepared to strike the island of Sicily, thus launching the first blow against Europe's "soft underbelly." Before considering the invasion on the island of Sicily, the Allies hoped that a successful campaign in Sicily, after an Allied victory in North Africa, would cause Italy to abrogate its "Pact of Steel" with Germany and pull out of the war.[22]

The Casablanca Conference established a series of events, which set up the initial Allied move to return to the continent of Europe by way of the Mediterranean. First, it marked the continuation of the indirect approach toward the center of the Axis that was started by the Anglo-American landings in North Africa, in November of 1942. Second, it would be followed by an attack on Sicily as a steppingstone, to the Italian mainland,

and third to invade the mainland of Italy, collapse the Italian Fascist regime, and eliminate Italy from the war.[23]

The outcome of the Casablanca Conference greatly favored the British strategy, to knock Italy out of the war by exploiting the advantages from the Tunisian victory, and attacking along the southern periphery of the Mediterranean. The American strategy had wanted the major effort to be the cross-channel invasion. The agreement on the European Strategy came after four days of heated debate. The British view prevailed and the Americas came to accept the invasion of Sicily as a strategic priority. The large number of troops that were available in North Africa, the great economy of shipping tonnage to be obtained (a major consideration), and the possibility of eliminating Italy out of the war, thereby putting a tremendous strain on Germany's resources, would weigh heavily on the decision to implement the strike invasion of Sicily (Operation Husky).[24]

Sicily was seen as and interim step toward larger strategic objectives, which had not been defined in the Casablanca Conference. However, the strike on the Sicily campaign had its own objectives specifically, these were: (1). To secure the Allied lines of communications (LOC) in the Mediterranean, and to allow shipment of supplies to the Soviet Union. (2). To divert as much German strength as possible from the Russian front, so as to enable the Soviets to inflict a decisive defeat on the Germans. (3). To pressure Italy to drop out of the War, thereby forcing Germany to assume responsibility for Italian commitments. (4). The (specific) military objective for the campaign was to capture and control the island as a base for future military operations.[25]

Another topic of discussion during the Casablanca Conference was the command structure and task organization for Husky. General Dwight Eisenhower was appointed

Allied Commander in Chief for the invasion. However, one of the most visible results of the British triumphs at Casablanca was their ability to influence the command structure of a committee system of separate Commander in Chiefs. Even though General Eisenhower was Allied Commander in Chief, his principal deputies were British. General Sir Harold Alexander was named deputy commander and ground force commander. Admiral Sir Andrew Browne Cunningham, who was the British Naval Commander in Chief, Mediterranean, was appointed commander of all Allied Naval forces, and Sir Arthur Teddler who was the Air Chief Marshal, was appointed as Commander in Chief, Mediterranean Allied Air Forces.[26]

On February 11, 1943, General Eisenhower appointed his subordinate commanders to carry out the invasion. As per the Combined Chiefs of Staff (CCOS), an Eastern and Western Task Force, each of which would be inter-service, but not inter-Allied would be designated. The Eastern Task Force would be British, under the command of General Sir Bernard Montgomery, and included all British and Canadian ground, air and sea units. The Western would be American, under the command of General George S. Patton, and included all American ground, air and sea units. The Eastern Task Force was designated Force 545 (British, 8th Army), with its Headquarters located in Cairo, Egypt, and the Western Task Force was designated Force 343 (U.S., 7th Army), with its Headquarters located in Rabat, Morocco.

Operation Husky culminated in an Allied victory and proved to be the catalyst for the decision to invade the Italian mainland. However, the complex interplays of bureaucracies, personalities, strategies, and the dispersion of five separate centers of planning caused confusion among the Allies. This led to the planning and execution of

Husky to be fraught with indecision, a disjointed planning process, poor coordination, and lack of unity of effort.[27]

Mission: Operation Husky was considered the largest amphibious operation conducted in WWII, making a concentrated assault on the southeastern corner of Sicily. Original plans for Operation Husky was to cut off the Axis LOC by striking the Port of Messina (located on the island's northeastern corner), which was the primary transit point between Sicily and the Italian Mainland, and it was identified as the key strategic objective for the campaign. However, due to the rugged terrain, narrow beaches, the city's heavily fortification, and beyond the range where the Allied African-based fighters were able to provide effective air cover, the Allied planners ruled it out as the initial objective.

An analysis of the topography revealed that the widest and most accessible beaches for an amphibious assault lay among the island's, southeastern and northwestern shores. Other major ports on the island (Palermo, Catania, Augusta, and Syracuse), along with the islands thirty major airfields were clustered between the southeastern and northwestern shores. Striking the ports would open the LOC for the Allied forces, and capturing the airfields as early as possible helped protect the invasion fleet from an aerial attack.[28] The final plan for the invasion was to conduct an amphibious assault, with more than seven division assaulting simultaneously along a front of one hundred miles, landing across the Italian beaches. This assault would be preceded by an airborne operation, which involved elements of two airborne divisions parachuting behind Axis lines, to secure key terrain, therefore allowing the landing force to secure the beachhead.[29]

Task Force 545 would begin its assault by landing four divisions, an independent brigade, and a commando force along a forty-mile front from the Panchino Peninsula, along the Gulf of Noto to a point just south of the port of Syracuse. A glider landing would reinforce the assaulting force in seizing Syracuse. Once ashore Task Force 545 would continue to push north, and seize the ports of Augusta, Catania, and the airdrome at Gerbini before continuing north to capture the port of Messina.[30]

Task Force 343 would land three divisions west of Task Force 545, along the central coast near Gela along a seventy-mile stretch. Task Force 343s primary objectives were to capture and hold the Port of Licata, the airdromes between Licata and Comiso, and protect Task Force 545s flank. General Patton saw the high ground directly above the town of Gela as a key position to secure his beachhead, and this became a major objective for the landing force. Both landings were to be preceded by airborne and glider assaults the night before (conducted by the 505th PIR Combat Team and the 3rd Battalion, 504th PIR), which were intended to secure key objectives and disrupt enemy communication and transportation.[31]

The original scheme of maneuver did not include detailed plans beyond the initial assault on the beachheads. There were no plans for the land campaign once Task Force 343 and 545 reached its initial objectives. Operation Husky's planning staff did not plan any other sequential steps until the troops were firmly ashore and the operation was underway. This planning failure can be attributed to the British practice of allowing the combat situations to develop, and reacting to the opportunities as they were presented.[32]

This was a different concept from the Americans who incorporated a combined arms approach (air, land, sea) to a common set of objectives in order to set the conditions

for operational success. This lack of planning caused controversy among the ground commanders once the ground campaign had begun.

Axis High Command recognized that they did not have sufficient strength to hold Sicily should the Allies gain a firm foothold on the island. In recognizing this, Field Marshal Albert Kesselring (Commander-in-Chief Axis Forces) determined not to repeat the defeat in Tunisia, decided to pull out his forces to prepare to defend the Italian Mainland - a simple but effective plan. He ordered General Hans-Valentin Hube (Commander Axis ground forces) to establish a strong defensive perimeter around Messina, and prepare for an evacuation. As part of this plan every Luftwaffe aircraft within range provided air coverage to protect the dangerous crossing from Messina to the Italian mainland. In addition, antiaircraft batteries were deployed on both sides of the straight of Messina. General Kesselring wanted to guarantee he had enough forces and equipment for the next stage of the Battle (the Defense of the Italian Mainland).[33] The Allied Force Headquarters, failed to properly plan beyond the beachhead assaults, and did not plan for an interdiction off the Straits of Messina, enabled the Axis forces to evacuate over 102,000 troops, 10,000 vehicles and over 17,000 tons of stores.[34] This flagrant oversight can be attributed to the disjointed planning process, poor coordination, and lack of unity of effort to closely link all the elements of the Allied effort.

The Airborne Plan*:* The American and British airborne units were considered to be vital to the success of the overall Husky plan. On July 9, 1943, the airborne forces began taking off from airdromes around Kairouan, Tunisia for Sicily. The British paratroopers loaded gliders towed by 51st Troop Carrier Wing (TCW) and the British 38th Wing. The British brigade was going entirely by glider for the first Allied glider

assault of the war, while the Americans paratroopers boarded 266 C-47s of the U.S. 52nd TCW and would drop 3,405 paratroopers of the 82nd Airborne Division, 505th PIR on their drop zones located to the northwest of Gela. The 504th PIR would drop on the night of D-day to reinforce the airborne assault in Glea.[35]

The American and British airborne units mission was to seize key choke points and to block the arrival of enemy reinforcements attacking the Allied beachheads, and to clear the way for the Allied troops advancing inland. Before midnight on D-1, a brigade of the British 1st Airborne Division was to land immediately south of Syracuse to seize a vital bridge and key points commanding the city. The U.S. 505th Regimental Combat Team (82nd Airborne Division) would drop behind the city of Gela. Their objectives were to: (1). Block all roads from enemy attempts to reinforce the beach landings around Gela. (2). Occupy key points within the DZ, so that it could be used again by other elements within the division. (3). To clear the way for the advance of the U.S. 1st Infantry Division on Ponte Olivo and its airfield.[36]

As the Allied armada was pushed forward to it objectives, a high wind had sprung up during the late afternoon and evening added to the difficulties of following an overly complex flight plan. The inexperienced pilots ferrying the airborne forces became disoriented in the darkness and strayed from their courses. As the widely scattered glider formations approached the Sicilian coast, some tug pilots exhibited an inclination to release the gliders quickly. Of the 144 gliders bearing British paratroopers to landing zones outside of Syracuse, only 12 landed on the selected LZ, while at least 70 crashed into the sea and the rest dispersed over a wide area.[37] Out of the 12 gliders that landed on

the designated LZ, eight officers and sixty-five paratroopers reached their objective and secured the canal bridge south of Syracuse.

An hour after the British glider troops had landed on the east coast, Lieutenant General James M. Gavin, then (Colonel Gavin), would make a parachute assault in to a large, egg shaped area that extended between Niscemi and Gela, on Sicily's southern shores. However, the turbulence of war began to buffet the operation. As previously mentioned the pilots became disoriented in the darkness, the crested moon gave very little light, and the planes had dim wingtip lights to aid in keeping formation, but these proved difficult to see. Unable to keep tight formations and fearing a mid-air collision, pilots began veering out of formation, flying very low causing to be blinded by salt spray on the aircraft windshields, high winds (of approximately thirty-five miles), and no major landmarks to help them with their navigation; pilots scattered and got lost.[38] The principal check point en route was Malta, but the planes failed to come within sight of it, again this is attributed to the numerous navigational challenges the pilots were experiencing. The orders were to drop every paratrooper and piece of equipment somewhere in Sicily, even if the correct DZ could not be found; and drop they did.[39]

In theory the parachute assault conducted on both D-1 and D-Day would have to be judged as disastrous. The troop carriers would deliver the paratroopers as far apart as sixty-five miles, from Cap Moto to Licata. During the first night, approximately one-eighth of the force landed on its intended objective, in front of the 1st Infantry Division. Others landed scattered in front of the U.S. 45th Infantry Division, the Canadians and British.[40]

Disaster occurred with the reinforcing drop, which was to take place by the 504th Regimental Combat Team, the night of D-Day to reinforce the 82nd Airborne Division in Gela; however, with the confusion of the main body airborne assault it was postponed until the following night. This change in the operational plan brought about a serious concern in encountering friendly surface fires. Even though it had been coordinated with the respective ground commanders to expect friendly troop carrier planes on each of the nights of D+1-D+6. They were to advise their respective naval commanders. Nevertheless, the detailed planning was not completely integrated and coordinated with the naval commanders. Tragically, the ships had a difficult time differentiating between friend and foe. 144 C-47 air transports carrying approximately 2,000 men of the 504th ran into intense friendly fire, on the night of July 11. This resulted in the loss of twenty-three planes, six with paratroopers still on board. Thirty-seven more aircraft were badly damaged. Paratroopers were again scattered on the drop, all the way from Gela to the east coast, as pilots took evasive action. From this incident alone the 504th would report 81 killed, 132 wounded, 16 missing, and the 52nd Troop Carrier Wing 7 killed, 30 wounded, and 53 missing.[41]

In spite of all the navigational difficulties, technical mishaps, dispersion of the troops, and other shortcomings the airborne assault can be viewed as a success. The fact that small elements of paratroopers were able to achieve critical objectives, at night, with no leadership (by conducting ambushes, destroying roadblocks and strongpoints, to include slowing the enemy's ability to disrupt the amphibious assault) assigned to whole reinforced battalions indicates the merits of the airborne approach. There is little doubt that the action of the American airborne troops speeded up the landing and advance

inland at least 48 hours.[42] The Allied victory in Operation Husky sparked the decision to invade the Italian mainland.

In essence the airborne assault in Sicily had many similarities to the German airborne invasion in Crete. The assaulting forces considered the operations a disappointment, while the defensive forces considered the operations a success. Either way it was a turning point in the airborne arm. For the Germans, Crete was the end of major airborne operations; for the Allies, Sicily transformed airborne warfare to an even larger scale.

Formation of the U.S Army Pathfinders*:* Unlike Operation Torch, the lessons learned during Husky were vital. The operational problems encountered by the Allied forces (large dispersion of troops, the friendly fire incidents and the threat to the airborne arm) led the leadership to seek ways to prevent a reoccurrence. Numerous recommendations were proposed to include: (1). Night operations, which offered a chance of greater surprise, but with far greater dispersion upon dropping. Nonetheless, increased training in night flying (over ground or water) for troop carrier crews would be needed to gain proficiency. (2). Integration and planning between the troop carrier units and the airborne units; to include centralized detailed planning and control of all airborne matters. (3). Develop a means to guide large airborne formations accurately to their DZ or LZ.

This resulted in the development of the first American Pathfinders, however, the question remains, why did it take a disaster like Husky, before the U.S. Army developed such a unit? This has never been answered. What is intriguing is the fact that American

Troop Carriers were aware of the existence, and had attempted to use the Eureka beacon and Rebecca receiver, to include radio homing devices during Operation Torch.

As previously mentioned, the 1,600-mile flight that took place during Operation Torch, from England to Algeria, carrying the 2nd Battalion, 509th PIR required some assistance. In order to guide the flight of C-47s inland, the British warship H.M.S. Alynbank was to broadcast a radio signal as it circled in the Mediterranean Ocean twenty-five miles off the Algerian coast. At a range of 200 miles the convoy of troop transport planes would receive a signal, which would guide the aircraft toward the coast. Once over the coast a second device would guide the aircraft to the DZ.[43]

Prior to the mission the Rebecca receivers were installed on the troop carrier planes. The receivers, when in range, received signal from the Eureka beacon transmitting from the DZ and home in on it.[44] Three weeks before the operation, 2nd Lt. Norman Hapgood of the Signal Corps departed England with a beacon to infiltrate Algeria to emplace the Eureka beacon on the drop zone on the night of the jump. The Eureka would indicate when the aircraft were approaching and on this signal, Hapgood and the Algerian "underground" operatives assisting him would light fires to visually identify the drop zone.[45]

The parachute assaults in North Africa emphasized the importance of reaching and identifying the correct DZ. Many factors played into the equation, however, some pertinent considerations were not taken into account. The archaic (technology) navigational aid systems and inaccurate maps the troop carrier planes possessed, made verifying and marking the DZ and LZ essential. The plan established to use the Eureka beacon, and lighting fires to visually identify the drop zone might have worked had it not

been for the challenges the troop carrier planes faced with navigation errors, communications problems, illumination, and bad weather. The ability to mass airborne troops on the correct DZ and LZ became a major concern for airborne leaders.

Conspicuously this illustrates a Pathfinder concept, and implies that American troop carriers were aware of this knowledge. Nevertheless, there is no indication that this information was shared with the Airborne Command, the 82nd Airborne Division, or other troop carrier wings. It's puzzling that the planners for Husky did not consider using this concept for the airborne drop in Sicily. Considering the British had already developed such techniques and a Pathfinder unit (21st IPC) of their own, which had arrived in North Africa by 1943.[46]

General Eisenhower's Allied Force Headquarters established in the spring of 1943, a combined British-American airborne, and parachute training facility in North Africa at Oudja, French Morocco, under the direction of the U.S. Fifth Army.[46] General F.A.M. Browning and General Taylor established the priorities and functions the center was to realize. One of the priorities was to develop air to ground communications and DZ locator methods (dropping paratrooper and aerial resupply), individual and unit training, combined airborne training with troop carrier units, and replacement training.

Again while this training was being conducted it was recognized that troop carrier platforms needed help locating the DZ. Immediately after, DZ locating methods were included in the training centers training program. Additionally, joint training and live rehearsals were being conducted by the British 1st Airborne Division, the 82nd Airborne

Division, the 509th PIR, and the 51st TCW for Operation Husky. With the U.S. 509th PIR and the 51st TCW being part of these joint exercises, and having been exposed

to the Pathfinders techniques and equipment it is again uncertain, as to why the pathfinder concept was not shared with the 82nd Airborne Division and the 52nd TWC.[47]

It is a hard question to answer, since it appears that the Americans were exposed to the Pathfinder concept again in North Africa when the British 21 IPC arrived in the spring of 1943. They were stationed near the French Foreign Legion camp at Sid Bel Abbes, in the vicinity of an airstrip near the village of Froha. Here they continued training and honing their skills on Pathfinders techniques and procedures, along with American troop carrier units designed to carry the British 1st Airborne Division to Sicily. However, due to the number of limited aircraft, they began their training with crews from the British 38th, in Albemarles aircraft. After a period of time they began to train with American C-47 crews in the old Dakota aircraft. The existence of a British Pathfinder unit could have hardly escaped the American troop carrier units. Especially since on the night of July 13/14 the commander and founder of the 21 IPC, MAJ John Lander perished when his Dakota C-47 was shot down, while observing operations over Sicily.[48]

It still remains unclear as to why the U.S. Army airborne arm failed to develop the Pathfinder concept prior to Operation Husky, and if, or at what time the British shared this concept with the U.S. Army. Especially since the British had already developed such techniques and a Pathfinder unit of their own. Nevertheless, the first documented training of the U.S. Army Pathfinder took place under the sponsorships of the Fifth Army Airborne Training Center in August of 1943.[49]

American experiments on Pathfinders techniques and procedures were initiated in or around March of 1943 prior to Operation Husky. The 509th Parachute Infantry Battalion at Oujda, Morocco conducted these experiments. Originally the Pathfinders

were organized as a Parachute Scout Company, consisting of three platoons, each platoon having two squads of eight men. The mission of the Parachute Scout Company, as envisioned at the time, was to precede the main body of the airborne forces to the designated areas of the parachute drop, and to use the Aldis Lamps (high power lamps that could be seen at a considerable distance), flares, and smoke pots, to mark off the DZ for parachutist and LZ for gliders.[50]

Further Pathfinder training was conducted at Agrigento, Sicily in August of 1943, shortly after the completion of Operation Husky; through the efforts of Lieutenant General James Gavin (then COL Gavin, Commanding Officer o the 505th PIR), LTC Joel L. Crouch, (A3 of the 52nd Troop Carrier Wing), and LTC Charles Billingslea, (former commandant at the Airborne Training Center at Oujda, Morocco, and chiefly responsible for the work of the Parachute Scout Company there). LTC Billingslea was placed in direct charge of the organization and training of Pathfinders units, and as the executive Officer of the combined parachute training facility. During various nighttime mass parachute-training jumps conducted by General James Gavin's, 505th PIR, 82nd Airborne Division, were highly unsatisfactory. The men were scattered all over the landscape, suffered many injuries and had a difficult time assembling in the darkness.[51] These exercises, together with prior training exercises that had been conducted in Camp Mckall, NC had brought to light a grave weakness in nighttime parachute operations. Despite the many number of easily identifiable landmarks, it was extremely difficult for pilots to locate the selected DZs and LZs in the darkness. It was during these exercises that it is purported the U.S. Army Pathfinder concept evolved.

On August 30th LTC Charles Billingslea, conducted a test in North Africa of what became standard practice during airborne operations. LTC Billingslea utilizing the same equipment (Eureka/Rebbeca) that the British 21st IPC had been using since 1942, and which consisted of two radar teams. Each team had a radar operator and an assistant, each jumped on to a DZ at night carrying a Eureka homing device in order to respond to signals from an electronic interrogator called the Rebbeca. Billingslea's experiments with the Pathfinder concept was suppose to be part of a joint training exercise conducted by the airborne and troop carrier units in order to prepare them for operations in support of the invasion of Italy. Nonetheless, other competing events in preparation for the invasion of Italy took priority, and these exercises only became demonstrations. As a result nothing more than brief training techniques took place until the final plan for the invasion materialized. The American Pathfinder concept was hastily formed, and in less than two months after the invasion of Sicily, the first U.S. Army Pathfinder's, elements from the 82nd Airborne Division jumped in to combat on September 12, 1943 in support of the invasion of Italy at Salerno (Operation Avalanche).[52]

officers played major rolls in conducting and supporting the 2-3 week experimental program. Back row left to right: Capt. John Norton, S-3, 505th 82nd Airborne Division; Lt. Mike Chester, A Co. 505th PIR; Lt. Bob Bales, 2nd 505th PIR; unknown, unknown radar technician. Front row left to right: Capt. William Kirkpatrick, Air Corps, Lt. Col. Jno Smiley, S-3, 82nd Div. Arty., Capt Boyd, 376th Para. F.A. Bn., Lt. Konar, 509th Para. Inf. Bn., unknown. Courtesy John Norton

Figure 11. Officers who played a role in the American Pathfinder Experimental Program

Source: Jeff Moran, *American Airborne Pathfinders in World War II* (Atglen, PA: Schiffer Publishing, 2003), 13.

With the successful campaign over the Axis forces on the Island of Sicily, Allied forces continue to prepare their strike against Europe's Soft Underbelly on the Italian mainland. As the next operation was being considered, the 82nd Airborne Division planners paid a great deal of attention to improve upon the lessons learned from the airborne assault on Sicily. The use of Pathfinders to precede the main parachute drop to assist in navigation aid for the troop carrier's to home in on the proper drop zones became a priority.

As General Clarks Fifth Army hit the beaches of Salerno and began one of the most bitterly contested amphibious operations of the war. Driving inland despite fierce well-prepared German opposition, Major General Ernest J. Dawley, VI Corps would

seize the dominating ridgeline extending from Altavilla to Roccadaspide along the west bank of the Calore River by the evening of September 11. Despite VI Corps reaching their initial objective the German counterattack pushed the VI Corps flank to the Albanella Ridge, driving a wedge through VI Corps and the British X Corps, and on September 12, it looked as if the German attack might overrun the beach. This set the conditions to drop the 82nd Airborne Division that night, who were standing by at the airfield in Agrigento, as the reserve component for this operation.

General Clark sent a personnel letter to General Ridgeway (82nd Airborne Division Commander) by courier specifying his commanders intent on the employment of the airborne drop. He wanted one regimental combat team dropped inside the beachhead south of the Sele River that night (September 12), another regimental combat team dropped in the same location the following night, and a separate battalion dropped on the mountain of village of Avellino, far behind the German lines, on the night of September 14.[53]

The courier with General Clark's letter also delivered a plan for marking the DZ prepared by the Fifth Army airborne staff officer. It specified that special Pathfinder homing equipment would be dropped on the Sele River beachhead drop zone with the first aircraft. This would help assist the following aircraft to accurately find their DZ. In addition, troops already in the area would use cans of sand soaked with gasoline, laid in the form of a large 'T'. They would light the cans up upon the approach of the first flight over the DZ, and douse them up with dirt once the parachute assault was complete. All pilots and jumpmasters were briefed of this plan. Such Pathfinder techniques could not be used on the night of September 14, for the Avellino DZ well behind the German lines.[54]

By the time the main body aircraft approached the DZ carrying both the 504th and 505th PIRs on September 12 and 13, the Pathfinders jumped in approximately thirty minutes ahead of the main body onto the correct DZ, and the T's were in place and the homing equipment was in operation. By all accounts the drops were very accurate with minimal dispersion. All paratroopers were able to assemble on the DZ, and begin their movement to their objectives.

The 82nd Airborne Division staff planned and launched a regimental size airborne operation in approximately twelve hours. They re-allocated the departure airfields, reshuffled troops as necessary, coordinated with the Navy and ground troops on the flight corridors, and utilized Pathfinders to put paratroopers on the correct DZ at night. The lessons learned from Operation Husky had been implemented, and contributed to the overall success of Operation Avalanche.[55]

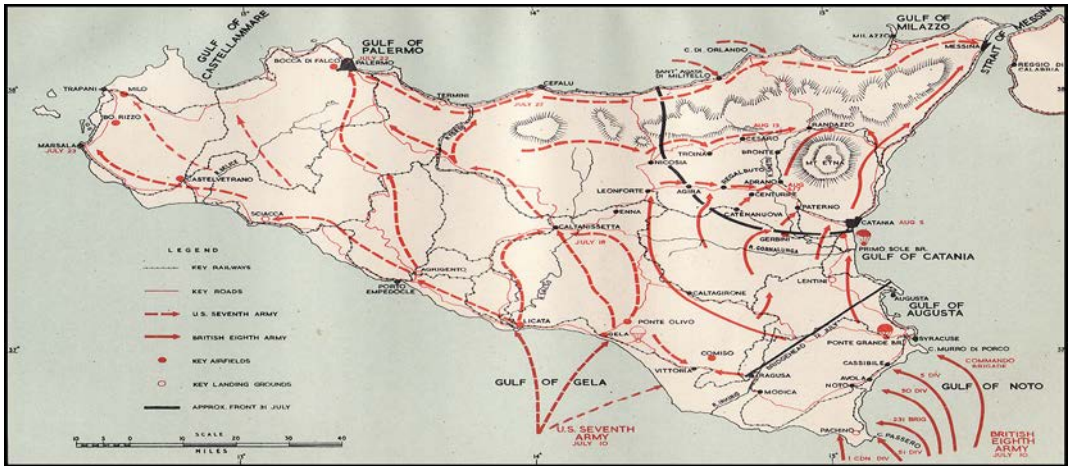

Figure 12. Operation Husky

Source: Privateletters.net, The WWII Letters of Private Melvin Johnson, "Maps," http://www.privateletters.net/maps.html (accessed April 18, 2014).

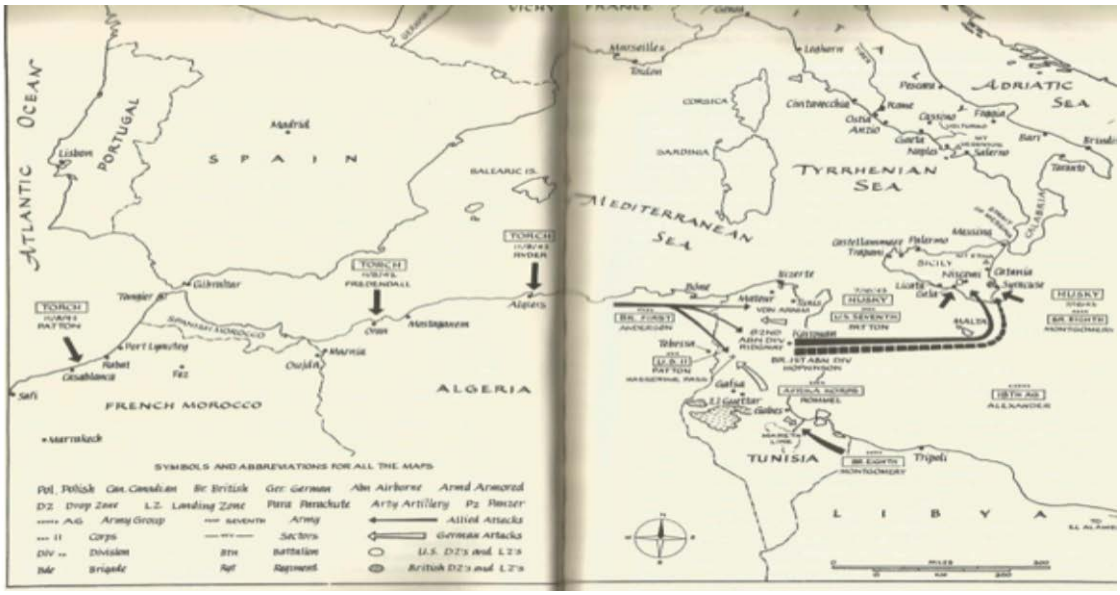

Figure 13. Allied Invasions of North Africa and Sicily Overview

Source: Clay Blair, *Ridgway's Paratroopers: The American Airborne in World War II* (Annapolis, MD: Naval Institue Press, 1985), 58-59.

Operation Overlord

> You are not all going to die. Only two percent of you here today will die in a major battle. Death must not be feared. Every man is frightened at first in battle. If he says he isn't, he's a goddamn liar. Some men are cowards, yes! But they fight just the same, or get the hell shamed out of them watching men who do fight who are just as scared. The real hero is the man who fights even though he is scared. Some men get over their fright in a minute under fire, some take an hour. For some it takes days. But the real man never lets the fear of death overpower his honor, his sense of duty to this country and his innate manhood. There is one great thing you men will all be able to say when you go home. You may thank God for it. Thank God, that at least, thirty years from now, when you are sitting around the fireside with your grandson on your knees, and he asks you what you did in the Great War, you won't have to cough and say, and 'I shoveled shit in Louisiana.' No, Sir, you can look him straight in the eye and say, 'Son, your Granddaddy rode with the Great Third Army and a Son-of-a-Goddamned-Bitch named George Patton! ― General George S. Patton, Famous D-Day Speech (June 5, 1944)

Situation: In June of 1940, Adolf Hitler had triumphed in what he called “the most famous victory in history,”the fall of France.[56] After Germany and the Soviet Union invaded Poland in September of 1939, marking the beginning of WWII, the British Expeditionary Force was sent to aid in the defense of France. Germany continuing on their conquest of the European countries invaded Belgium and the Netherlands on May 10, 1940, and three of their Panzer Corps attacked France through the Ardennes and pushed through to the English Channel. The outcome of this attack lead to the evacuation of approximately 338,800 Allied Soldiers (British, French and Belgian) between May 27 and June 4, 1940 trapped along the northern coast of France. Nevertheless, when Germany invaded the Soviet Union in July of 1941, Joseph Stalin began pressing for a second front in Western Europe. He suggested that a large-scale ground combat should be employed by having Allied landings in Normandy. British planners reported to Prime Minister Churchill on October 4, 1941, that even with the help of the Allied countries to include the United States, it would not be possible to gain a foothold in the continent of Europe in the near future. Churchill declined, as even with American help, the British did not have adequate forces for such a strike.[57] Instead it launched the indirect approach toward the center of the Axis by the Anglo-American landings in North Africa, in November of 1942 followed by attacking along the southern periphery in the Mediterranean.

At the January 1943 Casablanca Conference, Operation Roundup (a plan for a cross-channel invasion in 1943) was postponed until mid-1944. The decision to initiate a cross-channel invasion was decided at the Trident Conference in Washington in May 12, 1943. The overall objective of the U.S. and Britain, in conjunction with the USSR, was to

force the unconditional surrender of the European Axis and then bring the full weight of the Anglo-American strength to bear in compelling the unconditional surrender of Japan. It was also decided that it would be necessary to establish an Anglo-American headquarters in London to plan the invasion of France. British Army Lieutenant General Fredrick E. Morgan was selected to head a planning staff and given the title Chief of Staff Supreme Allied Commander (COSSAC).[58]

The mission of COSSAC was to plan Operation Overlord (formerly know as Operation Roundup). The task was to plan for a full-scale invasion in Europe, to take place early in 1944. With this strategic objective already defined, the COSSAC planners had to develop a concept of operation and identify the primary objectives. The initial plans were constrained by the lack of available naval equipment (landing crafts), and German U-boats were sinking more tonnage than could be replaced. Another obstacle that the planners faced was to determine where to land. Many variables had to be considered. The original thoughts of the planners were to establish Pas-de-Calais as a primary landing point, since it offered the shortest route to the Lines of Communications (LOC), and responsive air support from airdromes within range in England. Additionally, in August of 1942, an important event occurred that would also influence planning for the invasion. It was the raid on the small French port of Dieppe by Canadian Forces. This raid was a catastrophe, but presented the complications that a large-scale cross channel amphibious assault would face. The mission was to establish a foothold on the port for a short time, and divert German forces away from the Russians, and then re-embark. The purpose was to test the feasibility of a large-scale invasion in France. A Canadian infantry division assaulted the beach, but were immobilized by German artillery fire.

Approximately 3,000 men, were captured, wounded or killed. The lesson learned from the Allied troops on the Dieppe raid, was that planners should give careful consideration to any plan that would directly assault heavily fortified and defended French seaports in their initial landings.[59]

The Allied forces faced a well-entrenched enemy, and extremely detailed planning and preparation would be required for a successful operation. The German Army had occupied the entire French coast since it began occupation in the summer of 1940. Hitler's had intended to attack Britain from France; however, their attack into Russia left few troops in France. The Germans placed heavy defenses along the coast of France to prevent British landings. The German success at the Port of Dieppe supported this strategy. Nevertheless, when the Americans entered the war, Hitler began to construct the "Atlantic Wall" in early 1942.[60]

Another problem faced by the COSSAC planners was the lack of large harbors comparable to other potential coastal landing sites. Eventually it was decided that the best strategy would be to assault the less fortified beaches of Normandy (150 miles southwest of Pas-de-Calais). Assaulting the beaches of Normandy presented a significant advantage since it was South of the Seine River, and the most heavily fortified areas were North of Seine. The Allied objective of destroying the Bridges along the river would greatly impede the German response to an Allied assault. By establishing a foothold in Normandy, the Allies could build-up enough combat power and supplies to advance across Northern France and invade Germany.

After a thorough Intelligence analysis, COSSAC planners decided on an amphibious assault to take place on the Northern coast of the Cotentin Peninsula near the

Orne and Vire rivers. The scheme of maneuver entailed landing three divisions on the beaches of Normandy and dropping two Airborne Divisions (one U.S. and one British). The plan was unanimously approved at the Quebec Conference in August of 1943.[61] General Eisenhower was appointed the Supreme Commander of the Allied Expeditionary Force in December 1943. His headquarters, the Supreme Headquarters of the Allied Expeditionary Force (SHAEF) was established near London in early 1944. COSSAC was then incorporated into SHAEF. General Bernard Montgomery was named commander of the 21st Army Group, which comprised all of the land forces, Admiral Bertram Ramsay was given command of all the naval forces, Air Chief Marshal Trafford Leigh-Mallary was given command of all the Air Forces and Lieutenant General John Lee was given command of all the supply and logistics for the Invasion. Immediately following the integration of the two headquarters, the SHAEF began the final stages of the tactical plan for Operation Overlord, the establishment of a large-scale lodgment on the European Continent. The first phase of the Operation was the Allied assault phase (landing Operations) codenamed Operation Neptune.

Mission: Operation Neptune began on D-Day, June 6, 1944 and ended on June 30, 1944. The initial focus was to gain a lodgment between the Seine and Loire Rivers. The idea was after the initial resistance, the Germans would withdraw their forces behind the natural barrier provided by the Seine. The SHAEF planners estimated this task would take approximately ninety days, and following a tactical pause to reorganize and resupply the Allies would begin their advance into the region beyond the Seine and towards Germany.[62]

To achieve the operational objectives, the Americans would conduct their amphibious assault along the western flank closest to Cherbourg landing on the beaches designated as Omaha and Utah. The British and Canadians would conduct their landing operations to the east, on the approaches to Caen. The British would assault the beaches designated as Sword and Gold, while the Canadians would assault on Juno.

After much deliberation on how to employ the airborne troops, it was decided by General Eisenhower that on the night before the amphibious invasion paratroopers from the 82nd and 101st Airborne Divisions would conduct a two division airborne assault. Parachuting into France by moonlight near the vicinity of St Mere-Eglise. Their objective was to secure the roads that led to the shoreline and obstructing the German efforts to reinforce their coastline defenses.

The following morning the First Army under General Bradley would assault the coast. The U.S. VII Corps would land at Utah Beach near les Dunes de Varreville with the 4th Division. The U.S. V Corps would land to their east with the 1st and portions of the 29th Divisions at Omaha Beach. After securing a foothold in Normandy, the V Corps would expand the beachhead to the south, while VII Corps would cut across the Contentin Peninsula before wheeling north to capture the port city of Cherbourg. After securing the seaport, VII Corps was to move south toward St Lo. Once Bradley held the town and the St. Lo–Periers Road, he would have his army on dry ground suitable for offensive operations by mechanized forces. Patton's Third Army would then take to the field. Advancing into Brittany, it would seize the Port of Brest, and cover the south flank, while the First Army began an attack to the northeast toward Paris.[63]

On the eastern assault, the Second British Army would operate in the region between Bayeux and Caen, a region which provided suitable sites for airdromes and offered a relatively unimpeded route to Paris. It was also designated that the British 6th Airborne Division would conduct a parachute assault before dawn, prior to the British amphibious assault. Their objective was to secure the northeastern flank of the operation near Caen and secure crossing sites over the Orne River. At H-hour, the British 50th Division under the British 30th Corps would land on Gold Beach, near Bayeux. The British 3rd Division would land at Sword, near Lion-sur-Mer, and while the American V and VII Corps conducted their assault, the 3rd Canadian Division would assault Juno Beach near the town of Courseulles.

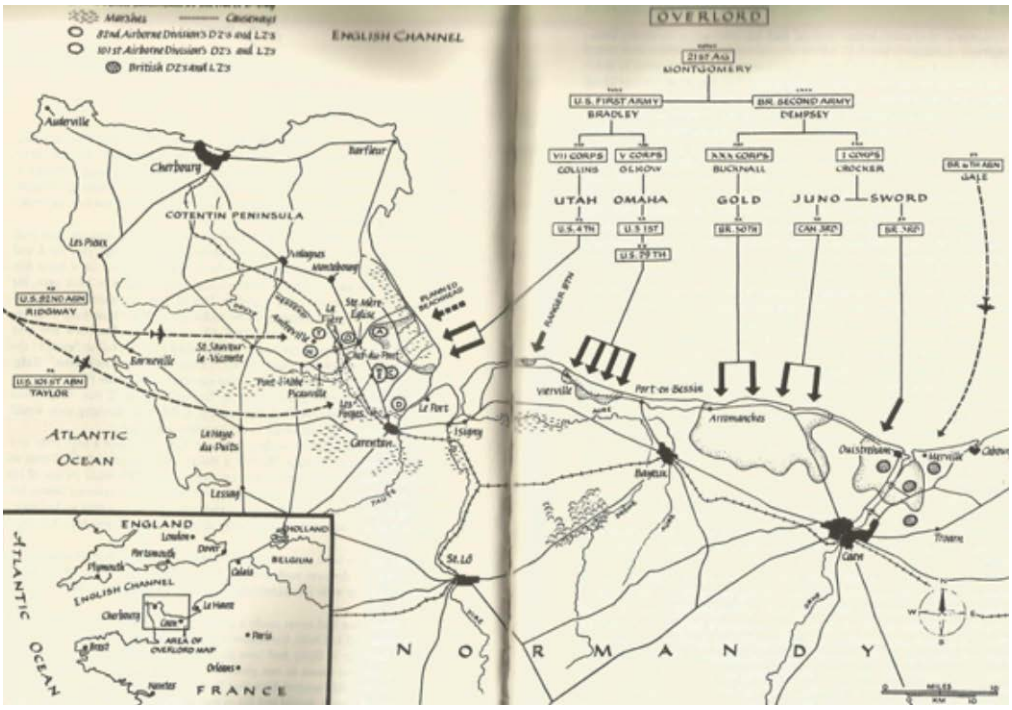

Figure 14. Operation Overlord: The Invasion of Normandy

Source: Clay Blair, *Ridgway's Paratroopers: The American Airborne in World War II* (Annapolis, MD: Naval Institue Press, 1985), 214-215.

The Airborne Plan: Having survived the trials of Sicily and Italy in the Mediterranean and Nadzab in the Southwest Pacific, the American airborne effort in 1944 was attracting an increasing interest and attention from the Allied Senior Leadership. Airborne operations were being considered in critical Allied campaign plans. Whether these operations would become the main effort of the tactical scenario remains a moot question. Nevertheless, for the upcoming cross-channel invasion of Europe, both the Senior Leadership and their planning staffs considered airborne operations as an essential part of their campaign plan.

One of the major questions to be settled in the planning for the invasion of Normandy was the manner and scope of the employment of airborne forces. Resources and subsidiary tactical plans would shape how the SHAEF planners would implement the airborne forces in support of Operation Overlord.[64] In addition, while the size of the airborne force to be used in Operation Overlord was being considered, the doctrine which govern their employment was just beginning to take shape; airborne doctrine scarcely existed in July of 1943 during the invasion of Sicily (Operation Husky). The Allied experiences in airborne operations up to date were too recent and limited, and there was not enough concrete information reported to serve as a guide to validate the specific tactical employment published in the doctrine. It was concluded that the execution of the airborne missions in Sicily were poor and their success limited. It was determined that unless the planning, equipment, and training could be drastically improved the premises of the SHEAF plan would be too optimistic.[65] With this in mind the airborne planners that began to shape the airborne assault for Operation Overlord were still uncertain of the role, the airborne arm would play. The lessons learned from the invasion of Sicily loomed

large in their view, especially the problems with dispersion, coordination, training, equipment and the concern of the emerging Pathfinder organizations as well.[66]

General Marshall, the U.S. Army Chief of Staff urged General Eisenhower to use the airborne forces to establish an airhead deep inside the French Territory. General Eisenhower decided against these options, and called for the airborne effort to be a tactical one, with the primary purpose of facilitating the establishment of the beachhead, thereby promoting their success. As the plan continued to develop, it was proposed that the airborne assault would be a night operation, which would precede the amphibious assault; this would then be a critical factor in the success of the whole invasion.[67]

As previously mentioned, there was a significant amount of deliberation between the Allied Senior Leadership and the planning staffs. It was decided that in the American sector the 82nd and 101st Airborne Divisions would conduct a two division airborne assault. The objective was to secure the roads that led to the shoreline and to obstruct the German efforts to reinforce their coastline defenses. The British 6th Airborne Division would drop before dawn near Caen with the objective of securing crossing sites over Orne River and protecting the northeastern flank.

After various proposals, the airborne plan for Operation Overlord was decided on March 1, 1944. As General Omar Bradley desired, two American airborne divisions would drop northwest of La Haye du Puits on the night of D-day/D-plus 1. North of La Haye, entrance to the west side of Cotentin peninsula had to be gained through a four-mile strip of dry land west of the Douve marshes or over a causeway two miles east of St. Sauveur de Pierre Pont.

One division's objective was to block the bottleneck, while another seized or destroyed the bridges over the Douve in the Utah area. The Cotentin peninsula would be effectively sealed against German reinforcement. A consideration that was realized during the planning phase was the region of La Haye, which was more than 20 miles away from Utah Beach. It was considered that it might take several days before American ground forces could reach it. Because of this prospect of hard fighting in an isolated position, the experienced 82nd Airborne Division was chosen to secure this sector to destroy the German defensive positions. The operation to capture and secure the causeways and important bridges in the Utah sector was given to the 101st Airborne Division.[68]

On May 26, 1944, the 82nd Airborne Division had completed all plans and preparations to carry out the mission assigned by the First United States Army. Administrative and operations orders had been published and distributed, and paratroopers were assembled in camps along the Welsh and Southern English coast. However, on May 26 the Division received a change of mission due to confirmed intelligence reports that the German's began to reinforce their defenses in the Cotentin (Cherbourg) peninsula-particularly their anti-airborne defenses. The 91st Infantry Division and elements of the 6th Parachute Regiment reinforced the German 243rd and 709th Divisions already in their defensive sectors in the St. Sauveur de Pierre Pont. This established the enemy positions the 82nd was suppose to block from the Cotentin peninsula, adjacent to the beaches, which presented the 101st with even greater opposition in their 40 square mile objective area. To offset this change in the enemy disposition, the DZ and LZ were brought closer together.[69]

The revised mission of the 82nd Airborne Division was to: (1). Land by parachute or glider before and after dawn on D-Day, west of the Merderet river, seize, secure and clear the general area. (2). secure the crossings of the Merderet river, and the bridgehead covering them (set-up defensive positions). (3). Capture St. Mere Eglise, seize and seize and destroy the crossing of the Douve River, protect the Northwest flank of the VII Corps, within the divisions zone. (4). Be prepared to advanced west on Corps order to the line of Douve North of its junction with the prairies of Marecageuses.

The 82nd would be using three DZs and one LZ in Normandy. DZs N and T (508th and 507th PIR assigned DZs) were plotted near the west bank of the Merderet River. DZ O (505th PIR assigned DZ) and LZ W (Glider Landings) were over on the east bank of the Merderet, closest to the 101st Airborne and Utah Beach. General Gavin was to lead the 82nd Airborne three parachute regiments into Normandy and General Ridgeway would go in by glider, but in a last minute change of plans; General Ridgeway parachuted in. The first element of the main body jumped at 0151, having been preceded 30 minutes by the Pathfinder teams dropping in with Eureka and lights to provide navigational aid and gain further accuracy. By 0312 all paratroopers had landed, and at 0404 the first of 52 gliders in the glider serial crashed landed. Both parachutist and gliders were scattered due to weather and enemy flak. By nightfall 30 percent of the Division was assembled and under control.[70]

The 101st Airborne Division was to protect the left flank of the VII Corps. It was critical that they seize four causeways that served as the westward exits from Utah Beach, capture the large stone locks that spanned the Douve River at La Barquette, and establish a defensive position along the Douve river line west to Saint Come-du-Mont.[71] During

the change in the airborne plan, there were very few changes for the 101st Airborne Division's plan. Three of its battalion drop zones shifted southeast a few hundred yards. Additionally, in the original plan a single battalion of the 506th PIR had been assigned to cover the southern perimeter of the division. Now the 501st PIR, previously assigned to take St. Mere Eglise, was shifted to the south to reinforce that sector.

The final change in the airborne plan called for the 101st Airborne to jump and glide into three DZs and one LZ lettered A, C, D, and E respectively. All four zones were positioned directly behind Utah Beach. The parachutist began dropping into their respective DZs at 0130 and the Glider landings began at 0400. DZ A, assigned DZ for the 502nd PIR and 377th Field Artillery Battalion. This force would secure the two northern causeways designated as exit 3 and 4, leading inland from Utah Beach, and destroy a German coast-artillery battery near Saint Martin-de-Varreville. DZ C, assigned DZ for the 506th PIR would secure the two southern causeways designated as Exit 1 and 2. In the southernmost sector DZ D, assigned DZ for the 501st PIR and C/326th Airborne Engineers Battalion would capture the large stone locks spanning the Douve River at La Barquette. These locks were deemed as a critical objective due to the implications it would have on the scheme of maneuvers if the Germans would blow them up. Also a second objective was to establish a defensive position along the Douve river line as far west as Saint Come-du-Mont. LZ W would see the glider landings establishing the build-up of combat power, to include artillery pieces, antitank guns, and additional troops.[72]

Parachutist and gliders were scattered in a wide area southeast of St Mere-Eglise, and by 2400hrs on D-Day only 50 percebt of the Division was accounted for. In spite of the scattered landings, the 101st was able to take its objectives, including St. Martin de

Varreville and Pouppeville, relatively quickly. Most importantly, they had been able to secure the vital causeways that exited the beaches, permitting the troops landing by sea to move inland.[73]

On July 8, with the Normandy beachhead firmly secured and Cherbourg captured, both the 82nd and 101st Airborne Divisions returned to England. Both divisions experienced a very high casualty rate during their combat operation in Normandy. When the 82nd left the Continent for England it had lost 5,245 paratroopers (KIA, WIA or MIA) and the 101st lost over 4, 670. It was not long after their operations in Normandy, that the American paratroopers returned to their rugged training schedule - a reminder that the war was far from over, and admist rumors of another combat jump in the continent were eminent.[74]

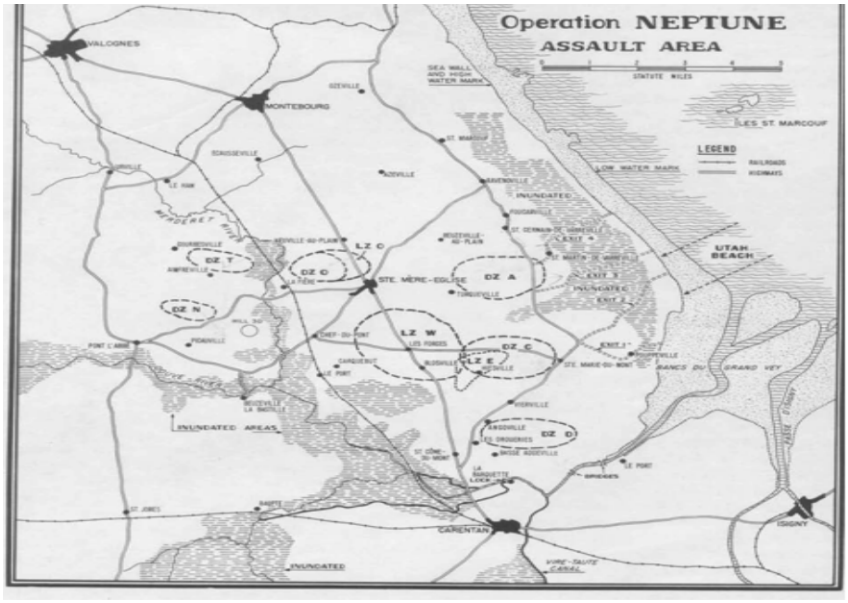

Figure 15. Operation Neptune: Assault Area (DZ locations for 82nd/101st Airborne Divisions)

Source: John Warren, "Airborne Missions in the Mediterranean 1942-1945" (Thesis, USAF Historical Division, Air University Maxwell AFB, 1955), 44.

The Emerging U.S. Army Pathfinder Force: From March of 1943 until the Airborne Assault in Normandy on June 6, 1944, the U.S Army airborne arm was taking significant steps in the development of Pathfinders organizations. Senior Airborne leaders were ensuring proper planning and training was being conducted, and the fledgling Pathfinder organizations assembled by the IX TCC and the 82nd Airborne Division before the invasion of Italy at Salerno, became the core of the growing American Pathfinder program. By D-day Pathfinder aircraft crews and Airborne Pathfinder units from the 82nd and 101st Airborne Divisions were trained, and ready to execute the Airborne Assault of the much-anticipated cross channel invasion of Normandy. As a result of close cooperation and integration, they reached a level of joint training and skill the American airborne arm had struggled to achieve from its conception.

The suffered combat difficulties hightened the interest among the senior leadership, for the need of Pathfinder teams to provide naviagational aid and guidance to the troop carrier wings conducting airborne operations. Various men (General Gavin, LTC Crouch, LTC Billingslea, and CPT Norton) who became important contributors to the Pathfinder development in Europe. These men and others, pioneered and contributed to the development and refinement of Pathfinder organizations, TTPs, and equipment. The emerging U.S. Army Pathfinder force did not take place in the Combined Airborne Command or the Fifth Army Airborne Training Center, but almost exclusively in the troop carrier wings and airborne divisions in the European theater of operations.[75]

The Airborne divisions and troop carriers wings began to develop processes that eventually led to the creation of established organizations (no longer ad hoc Pathfinder organizations) that through written orders, remained outside the formal tables of

organizations and equipment established by the Army, and therefore deemed temporary. In the process of developing training plans, and a school to train Pathfinder teams for each wing and airborne division participating in the Normandy Invasion, they concentrated on refining TTPs, and on testing different ways to deploy and use the available equipment. They called on the units back in the states to incorporate the lessons learned in their airborne training.[76]

On October 1943, General Gavin ordered that a Pathfinders experimental team, of 125 officers and paratroopers be formed in order to conduct a test on a wide range of doctrinal, organizational, and procedural questions about Pathfinder operations. To include the development and improvement of TTPs and to aid C-47 convoys to find DZs especially at night. The 82nd Airborne Division Experimental Group, consisted of a task force of infantrymen, artillerymen, air-defense personnel, and engineers would return to Comisco, Sicily to conduct the test, and answer two pages of questions that General Gavin personally prepared. Captain Jack Norton a veteran of the Sicily and Salerno jumps, was put in charge of conducting these experiments. In addition, the Troop Carrier Command sent handpicked crews, including LTC Crouch.[77]

From October 20–November 7, the 82nd Experimental Group, which included Captain Frank Boyd of the 376th Parachute Field Artillery Battalion, Captain William S. Kirkpatrick of the IX Troop Carrier Command, and Lieutenant Michael Chester along with the paratroopers of the Task Force conducted experiments and tested different variations in organizational force structure, equipment and employment techniques. In addition, they looked at different options on how to rig the heavy loads Pathfinders carried, by jumping from different altitudes both day and night. Numerous exercises were

conducted on perfecting the TTPs to include setting-up the Eureka and its associated equipment, setting-up markers to include panels and lights for parachute drops, and setting-up lights to mark the runways for glider landings. They were also able to compile a large volume of valuable data, which helped them determine how long before the main body Pathfinder teams needed to be dropped in order to accomplish their tasks. These experiments and testing resulted in creating an SOP, which included a table of organization and equipment (TO&E) necessary to operate a division Pathfinder company for a minimum of a two-week period, both in training and in combat.

At the conclusion of their time in Comisco, Sicily a formal report with recommendations was drafted for General Gavin, which included: (1). A recommendation relative to the organizational force structure for a division Pathfinder company. (2). A recommended SOP that identified and established Pathfinder duties and responsibilities, TTPs, individual and collective training requirments, coordination procedures with the troop carrier wings, and the employment of Pathfinder teams in combat. (3). A recommended operations and maintenance manual for all associated Pathfinder equipment. From these recommendations, the concept of a Pathfinders company at division level providing a platoon for each parachute regiment became the standard, in the airborne divisions deployed in the European Theater of Operations.[78]

Major General Paul L. Williams, the commander of the Air Corps IX Troop Carrier Command on February 25, 1944 organized a new command, which coordinated airborne training exercises with the 82nd and 101st Airborne Divisions for the invasion of France. He established the IX Troop Carrier Pathfinder Group (Provisional) with Lt. Col. Crouch as the commander and Maj. James T. Blair, Jr. as the group's executive

officer. The group was to provide Pathfinder crews and aircraft for airborne missions. It was also to be the commands Pathfinder School for both the Troop Carrier Groups and Pathfinder teams from the 82nd and 101st Airborne Divisions. The school was first located in Cottensmore, England, and then it was moved to North Witham, England on March 22, 1944.

While the 82nd Experimental Group was conducting its test, the 505th, 507th, and 508th Parachute Infantry Regiments each sent six officers and fifty-four enlisted men to North Witham to conduct joint training with the IX Troop Carrier Pathfinder Group (Provisional). In addition, parachute regiments from the 101st arrived at the group. These Paratroopers from the 82nd and 101st Airborne Division's formed a provisional Pathfinder company. All potential Pathfinders were 'hand-picked' from a large group of volunteers. For the cross-channel invasion in Normandy 120 officers and enlisted men would form nine teams, one team for each battalion of three regiments. Their training in North Witham consisted mainly in practical work, parachuting in with their respective equipment, organizing DZs and LZs for the upcoming airborne assault, setting up special holophfane lights, learning the British gee navigation system, the SCR-717 radar, and to use the BUPS beacon; special emphasis was placed on night operations.[79]

The mission for the Pathfinder teams in Operation Neptune was to: (1). To provide navigational aid for the troop carrier wings and organize the DZs and LZs. (2). To assist the battalion commanders in assembling their units. (3). To gather and provide real time information of the enemy situation obtained from their respective DZs to the maneuver commanders. The Pathfinder force, which was to lead the way for the airborne assault consisted of aircraft from the IX Troop Carrier Command. The aircraft

formation consisted of 6 three-plane serials one for each of the 6 DZ, and another serial of two aircraft was added to parachute on to DZ C, and move about a quarter-mile west and set-up the aids for the 101st Division's first glider mission. Each Pathfinder designated aircraft carried panels, holophane lights, two Eureka beacons, two BUPS beacons, and a team of 13 Pathfinders.[80]

The Pathfinder drops in the 101st Division area were to begin at 0020 and those of the 82nd at 0121. The mass drops by the respective divisions were to begin half and hour after the first Pathfinders landed. It was estimated that at least one team from each serial would be operational on their respective DZ prior to the main body drop. Pathfinders would begin taking off for France late on the evening of June 5 from North Witham, followed by their divisions from various other airfields in England. The first pathfinder serial for the 101st Division took off from North Witham shortly before 2200 with Colonel Crouch flying the lead plane. The six 3-plane serials, one for each drop zone, utilized their Gee, SCR-717, and Rebecca's to fly the well-marked route over the English Channel. The expert pathfinder pilots and navigators had no trouble reaching Normandy. They crossed the Channel in good formation, risking collision with Allied shipping, in order to conceal themselves from the German early warning radars. After reaching Normandy the pilots relied on the Gee, dead reckoning and visual aid recognition of the terrain.[81]

On approaching the continent the pathfinders found their navigation impeded by a layer of clouds, which extended from the western shores of the Cotentin nearly to the DZ. Sporadic German fire, mostly from small arms, limited their ability to recognize landmarks and maintain their original formations; nevertheless, the highly trained

Pathfinder carrier group crews navigated to the area of their respective DZs. At 0016 the jump signal was given. The 502nd PIR Pathfinder teams landed about a mile northeast of the objective. Unable to reach DZ A, they set-up their navigational aids near the village of St. Germain-de-Varreville.

The 506th PIR Pathfinder teams were scheduled to drop on DZ C, the 101st Divison's center DZ. Meanwhile one plane was lost in the Channel due to engine trouble before reaching Normandy. All aboard were rescued. The other two aircraft in the serial completed their drop at 0025, having depended on Gee entirely except for some visual checks. One Pathfinders team dropped near their designated DZ, and the other landed about half a mile southeast of their objective. The second serial scheduled to drop on DZ C overshot the final turn, but dropped its jumpers at 0027 between one and two miles south of the zone. However, the equipment jumped-in by that serial was not to be used until dawn. It was to be used for the follow-on glider missions, allowing the pathfinder's a couple of hours to reach their objectives before the scheduled glider landings took place.[82]

The Pathfinder teams from the 501st, assigned to DZ D, which was the southernmost DZ of the 101st, misjudged their position due to a faulty Gee in the lead aircraft that had not been properly set, and failed to recognize its final turning point. This caused this aircraft to fly over the east coast of the peninsula before discovering its mistake. It made a sweeping circle and approached the DZ from the southeast over the Carentan Estuary. At 0045 the Pathfinders team dropped about a mile from their designated DZ, the drop was originally believed to be accurate.[83]

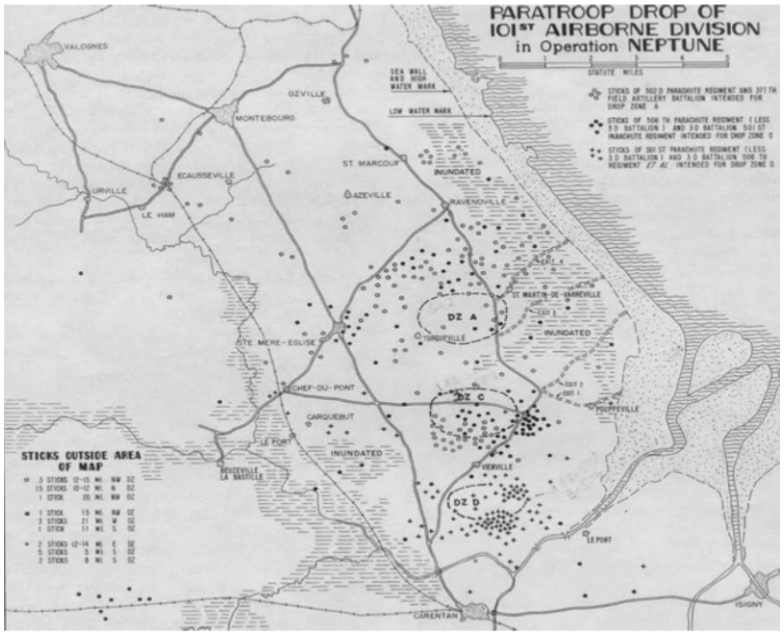

Figure 16. Operation Neptune: (101st Airbrone Division Drop)

Source: John Warren, "Airborne Missions in the Mediterranean 1942-1945" (Thesis, USAF Historical Division, Air University Maxwell AFB, 1955), 44.

Pathfinders began taking off from North Witham airfield around 2200 for Operation Overlord. The 82nd Pathfinders flew in three serials, in V-formations at various intervals. The 505th would take the lead, followed by the 508th, then the 507th. The three serials were to navigate straight from Peoria to their DZ, just as the main body was scheduled to do. The 505th Pathfinders hit their correct DZ O, near Ste. Mere Eglise. The pilots had mistaken Mounteburg for Ste. Mere Eglise, but caught the error before the jump. The pilots attempted to cross the Cotentin using the navigational aid Gee, swerved north, passed close to Valognes and made its final run to the DZ. At 1115, six minutes ahead of schedule, the Pathfinder team dropped from an altitude of approximately 300 feet, within 400 yards of their designated DZ. In around ten minutes, all Pathfinders were

assembled, all battalion ‘Ts’ were lit (except one) and all Eureka’s were operating. All the main body serials jump their paratroopers on their respective DZs. In addition, the LZ for the 325th Glider Regiment was set-up as planned.[84]

Of the two DZ’s on the west side of the Merderet, the northernmost was called DZ T, the southern one DZ N. The three planes of the 508th Pathfinders, bound for DZ N made their approach according to plan at 0138, however, they encountered heavy anti-aircraft fire. Their navigators were sure the drop had been accurate, but the troops landed over a mile southeast of the zone. Upon landing they also encountered small-arms fire on the ground. Despite coming under enemy fire the Pathfinders team was able to employ one Eureka, and two lights in the operation well in advance of the first serial of the main body. Twenty planes from the first serial dropped their paratroopers on the designated DZ; however, no planes form the second and third serial arrived over the DZ.

The 507th pathfinder serial designated to drop on DZ T made landfall appreciably north of Peoria, but made accurate use of Gee, sighted some landmarks near the zone, and dropped its team with precision. Unlike the other serials it had come in considerably above the prescribed altitude of 600 feet. Once on the ground they confronted heavy ground enemy fire. 1st LT. Charles Ames dropped accurately on DZ T, but only made contact with his Eureka operator, the wireman and section Sergeant. After establishing his position he landed in the middle of a group of buildings, which he recognized at once from prior study of air photos. He came under enemy fire, and made his way to a near by wheat field where he continued to look for the rest of the Pathfinders team, his search was unavailing, but he employed his Eureka radar at 0212 just in time, for at 0217 the beacon was triggered by a Rebecca response from the leading aircraft. Even though, 1st

LT Ames was not able to put his ‘T’ lights into operation, at 0226 the main body began to jump filling the sky with paratroopers.[85]

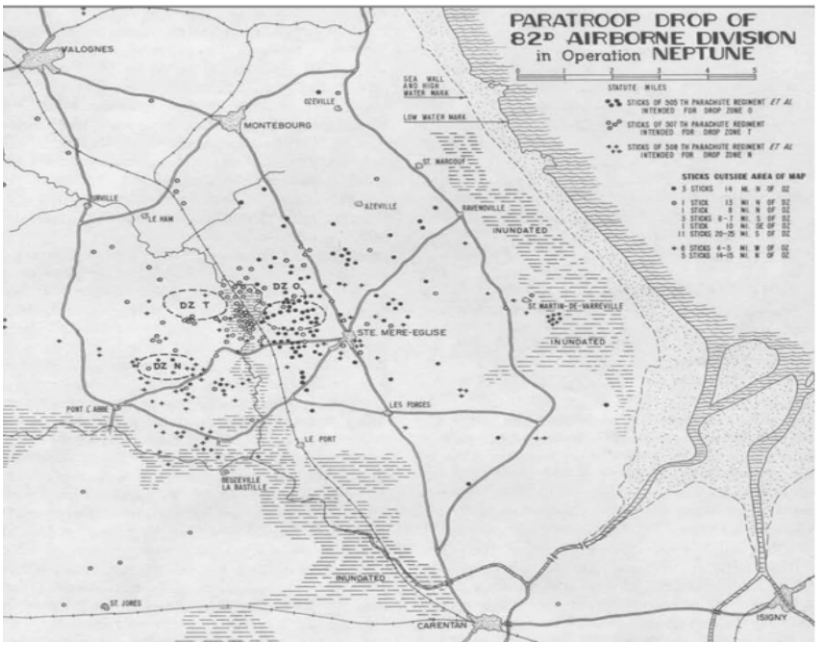

Figure 17. Operation Neptune: (82nd Airbrone Division Drop)

Source: John Warren, “Airborne Missions in the Mediterranean 1942-1945” (Thesis, USAF Historical Division, Air University Maxwell AFB, 1955), 49.

It is difficult to assess if Pathfinder operations were significant during Operation Neptune. The IX troop carrier had the task of delivering 13,348 paratroopers to their designated DZ. Even with the numerous challenges encountered, and utilizing only dead-reckoning and Gee, the IX troop carrier planes and Pathfinders were able to drop approximately 10,000 paratroopers from two airborne divisions within two - five miles of their designated (Eureka) beacons on the DZ. Although the Pathfinder mission and airborne assault was not considered a success, the blame of near failure of the Pathfinder

mission cannot all be attributed to the training of the Pathfinder units. Pathfinder teams had their challenges once they exited the aircraft and landed on the DZ. Some of the challenges they faced have not been totally analyzed; however, a partial conclusion may be reached as it might possible that the Pathfinder teams who jumped in Normandy were not fully trained, to overcome the initial situation to which they were exposed. They landed in the German infested hedgerows of the Cherbourg Peninsula. For example, the possibility of encountering enemy troops on the DZ hindering their preconceived plan for assembly, as assembly lights could not be used. No other alternatives had been prepared.[86]

Pilots of the main serials encountered anti-aircraft fire, fog, and German night fighters after crossing the French coast, and took evasive action to minimize the danger. This resulted in a tragic dispersion at the DZs and the pilots dropping the jumpers from 300 to 3000 feet in altitude, some at excessive speeds (average jump speed from 90-110 miles per hour). In addition, pilots had been trained to expect the lighted "T" as they closed in on the Eurekas. The idea that Pathfinders were able to employ the Eureka's, and not the lights was not anticipated in pilot instruction. As a result this confused some pilots. The red light stayed on too long, and the green light was switched on too late, causing the men to miss their DZ and disperse throughout the landscape.[87]

Many lessons were learned from the Pathfinder operations in Normandy. Clearly Pathfinder operations had come a long way from their beginnings in Northern Africa and Sicily. Establishing organizational units, standard operating procedures, a school dedicated to their training, as airborne operations continued in Europe, and to include sharing the lessons learned with airborne units that were emerging and conducting

training back in the United States. Pathfinders would continue to evolve and adapt along with the airborne arm, while continuing to improve their methods of providing navigational aid to help paratroopers reach their designated DZ accurately. Until other methods of navigation aid are devised (that would eliminate probable error), airborne Pathfinders teams are essential to future airborne operations. And without their aid the chances of the troop carriers dropping parachutist on designated DZs are questionable.

The difficulties encountered in Operation Neptune once again raised the question to the Senior Military Leaders whether night airborne operations were worthwhile, given the vulnerability of lighted beacons, the limitations of radar, and the difficulty of keeping formation at night. The advantage of being able to see the way, outweighed the hazards of ground fire and air interception incurred by daytime missions. Never again did Pathfinders teams jump to guide a night parachute assault in WWII, after the cross-channel invasion of Normandy.[88]

Even though Pathfinders teams did not guide another night parachute assault in WWII, after the Normandy invasion, their contributions to the airborne effort did not go unnoticed. After the invasion in Normandy they were once again called on to support what was to be the largest airborne operation of the war, Operation Market (the airborne phase of Operation Market Garden). The airborne Pathfinders main contribution during Operation Market was not providing navigational aid to the first main body serials, but in subsequent efforts to bring in supplies, and reinforcements to the airborne forces until ground units arrived.[89] Pathfinder's continued to receive attention, after they lead the air resupply to the besieged 101st Airborne Division trapped in Bastogne during the Battle of the Bulge. Even though Pathfinders were not conducting their primary mission during

Operation Market they adapted, and provided a critical function in their logistics mode, by aiding those airborne divisions as they fought to seize and hold open a corridor to the Arnhem road bridge. Pathfinders' contributed not only to the airborne assaults and logistic re-supply in the Mediterranean and European Theater of Operations, but they continued their efforts by providing navigational aid for the airborne assaults of the 11th Airborne Division in the Pacific Theater of Operations; their efforts were immeasurable.

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CHAPTER 5

PATHFINDERS IN WWII: PACIFIC THEATER OF OPERATIONS

> The general who advances without coveting fame and retreats without fearing disgrace, whose only thought is to protect his country and do good service for his sovereign, is the jewel of the kingdom.[1]
>
> —Sun Tzu

> These islands must and will be defended. I am here by the Grace of God. This is my destiny.[2]
>
> — General of the Army Douglas MacArthur

Airborne Operations in the Pacific Theater

The Pacific Theater of Operations (PTO) is often overlooked in the study of World War II airborne operations. The reasons are several: the operations there were much smaller in scale, and generally had less decisive effects than in the Mediterranean and European Theaters of Operations. However, the airborne units not only planned and executed successful combat jumps that met specific objectives, but managed to skillfully augment conventional forces in long-term campaigns. Only one Airborne Division, the 11th and one Parachute Infantry Regiment, the 503rd were deployed in the PTO. The 503rd Airborne Regimental Combat Team and the 11th Airborne Division executed textbook airdrops, engaged in successful prisoner of war (POW) rescue operations, and assumed occupation duties in former Japanese-held territory. The hostile climate and austere living conditions further differentiated the Pacific paratrooper's experience from that of his European Theater Operations (ETO) counterpart. The 11th Airborne Division only conducted one Regimental Size parachute assault and no significant glider operations. The 503rd PIR conducted three regimental operations. Most of the combat

operations executed by these airborne units were as ground troops delivered by sea. The United States Marine Corps (USMC) had instituted the 1st Marine Parachute Infantry Regiment, during WWII in the PTO, which consisted of four parachute battalions. Even though these four battalions did not conduct airborne operations in the PTO, their value in amphibious and ground maneuver operations were immeasurable. Counting both the Army and Marine airborne units, there were nine parachute and four glider battalions deployed in the PTO.[3]

There were only seven combat operations, of regimental or smaller size conducted in the PTO. In all theaters of operations, parachute assaults were in support of an amphibious assault or ground offensive. They aimed to secure objectives by seizing and holding terrain suitable for the landing of troop-carrying airplanes and gliders. River, canal crossings, defiles areas to the rear of enemy beach defenses, and landing fields of friendly aircraft. At times they were also used to deny the enemy of existing airdromes. Other uses were securing objectives inland to await link-up with the amphibious force, block enemy advances toward the beachhead, create confusion, or to reinforce an established beachhead.

Airborne units in the European and Mediterranean theaters generally conducted large operations in mass, and were vastly larger and more complex than any conducted in the PTO. Large airborne operations would not be conducted in the Pacific due to the terrain restrictions, airlift limitations, rapidly changing situations, and the nature of the enemy. The ability of the airborne units to move rapidly by air provided a useful capability, which made them extremely suitable for the theaters rugged terrain. In

addition, their flexibility allowed them to respond rapidly to emerging situations and economy-of-force missions.[4]

While there were glider units in the PTO, no significant glider operations were conducted; however, there were several operations in which airborne units, both parachute and glider, fought as ground troops, or conducted economy-of-force missions after being delivered by sea. Even though the airborne operations in the PTO were smaller in size, there were some spectacular missions conducted by parachute delivery the Corregidor assault and the Los Banos raid. These raids were parachute delivered to liberate U.S. and Allied civilian internees on the island of Luzon, and to take the island fortress of Corregidor. These airborne operations were among the most remarkable and successful operations of WWII.[5]

The employment of Pathfinders was limited in the jungles and islands of the Pacific. Nonetheless, the 511th PIR Pathfinder's, of the 11th Airborne Division led the way for the successive airborne assaults conducted through the Philippine archipelago during the Luzon Campaign; the liberation of the Philippines.

The Phillippine Archipelago

Situation: The attack by the Japanese upon Pearl Harbor on December 7, 1941, the subsequent invasion of the Philippines, and the defeat of Garrison forces on Wake Island, which was the only outpost within striking distance of Japan, initiated a series of rapid and highly successful operations that overran or destroyed military forces of the United States, Great Britain and Holland all across the Western Pacific Region.

Since 1921 the United States military strategy in the Pacific had remained basically unchanged. It was expected that a major war in the Pacific would begin with

acts of aggression by Japan. It was assumed that the Philippine Islands, the only bastion of strength west of Hawaii would probably be a target of war. The defense of the islands would fall on U.S. and Philippine ground forces with the main objective to deny the enemy access to Manila Bay. If the Japanese were to defeat the U.S. and Philippine forces, they would withdraw to the Bataan Peninsula, and Corregidor Island, which commands Manila Bay. Here they would hold out until reinforcements could be sent. This strategy was outlined in "War Plan Orange," (Rainbow-5) one of the Pre-World War II, set of U.S war plans, also know as the Rainbow series. The Rainbow series of War plans had been developed to push across the Pacific to reinforce the Philippine Islands in the event war was to breakout with Japan.[6]

After the early morning (approximately 0748) attack against Pearl Harbor on December 7, 1941, there was also a strong Japanese force attack (approximately 1245) on Clark, Iba and the nearby airfields near Manila, and on the Philippine island of Luzon.[7] Initial bombing rendered the American airfields impotent, thus eliminating all possibilities of air defenses that might have existed. Over half of General MacArthur's air forces were destroyed; what still remains unclear is how U.S. planes could be surprised on the ground nine hours after the attack on Pear Harbor. From the very beginning, Japanese control of the air was assured, and ground forces were subject to relentless air attacks.

In addition, Admiral Hart, commander of the Asiatic Fleet had taken defensive precautions prior to December 7, due to early warnings he had received from Army and Navy Officials of a surge in Japanese activity in the Pacific. A possible surprise aggressive movement in any direction, which included the Philippines and Guam, could

take place. However, Admiral Hart failed to inform General MacArthur that his fleet had been removed and therefore was not providing covered patrol in Philippine Waters.

On December 22, General Homma and the Japanese 14th Army (two divisions) came ashore at Lingayen Gulf in Northern Luzon. Lieutenant General Wainwright, Allied commander of the Philippines took immediate action to attempt to oppose the Japanese "on the beaches" as directed. But the Filipino defenders were gradually pushed back, and the Japanese successfully expanded their beachhead.[8] Two days later another Japanese force landed at Lamon Bay in Southern Luzon south of Manila. This would eventually crush the U.S. and Philippine forces. Retreating from the Japanese beachhead of Lingayen Gulf, Allied forces had withdrawn onto the Bataan Peninsula and Corregidor by January of 1942, where they defended the entrance to Manila Bay. The superior weight of the Japanese forces continued to push the Americans towards the eventual breakdown of their defenses. Shortage of food, medicines and ammunition contributed to the eventual end of formal resistance.

On February 22, 1942, General MacArthur was ordered by President Roosevelt to proceed to Australia. Upon arrival there his instructions required him to organize a new headquarters, and a new command for the prosecution of the war against the Japanese. On April 9, 70,000 troops on Bataan surrendered under the command of Major General Edward P. King, and on May 5, the Japanese attacked Corregidor and on May 6, in the interest of minimizing casualties, General Wainwright surrendered; by June 9 Allied forces had completely surrendered.[9]

Because of the rapid advances made by the Japanese in the Pacific, invasion of the continent of Australia was more than a possibility. General MacArthur, upon his

arrival in Australia, faced two tasks: establish a command (Southwest Pacific Area) and base from where to return to the Philippines and the eventual surrender and occupation of the Japanese homeland, and organize in conjunction with the Australians a defense for Australia. Geographically the Pacific Theater was entirely different from that of Europe, and logistical support had to be furnished over vast seas, trackless landmasses, and jungle areas: as a result, the Pacific war became a contest for bases. Australia was a natural selection to establish the Southwest Pacific Area command and from where to mount the Allied advance against Japan. On April 18, 1942 General MacArthur assumed command of the Southwest Pacific Area and established his general headquarters at Melbourne, Australia.[10]

In January of 1945, after more than three years of war, U.S. Military forces returned to the island of Luzon in the Philippines. After the historic defeat of U.S. forces on May of 1942, and the disaster that befell the Pacific Fleet at Pearl Harbor; American prewar plans for action in the Pacific were rendered obsolete and inoperable. By the spring of 1943 the U.S. Joint Chief of Staff had developed a new strategic plan for the defeat of Japan. Its underlying concepts governed the planning and execution of operations in the Pacific. A year and a half of debate over how to best stage an allied drive into the pacific, centered on the concept that the Allies might very well find it necessary, to invade Japan in order to end the War in the Pacific. This in turn shifted the focus of the discussion towards the islands of Luzon and Formosa as primary objectives.[11]

In order for the Allied forces to defeat Japan, it was imperative to cut Japan's LOC to the South Pacific; the Allies would have to gain control of the South China Sea.

Gaining this control would in turn involve the seizure and development of large naval, air and logistic bases in the strategic triangle formed by the South China Coast, Formosa and Luzon. Nevertheless, before Allied forces could safely move into this strategic triangle, they would have to secure air bases in the Southern or central Philippines from which to neutralize Japanese air power on Luzon. In addition, it would also be necessary to establish staging bases in the southern and Central Philippines from which to mount amphibious attacks against Luzon, Formosa and the China coast.[12]

Military Strategic planners coined Formosa as such a valuable strategic prize, and designated it the single most important objective in the southern Pacific. It was concluded that conducting a direct assault on Formosa and bypassing the Philippine archipelago, was all that was necessary to establish and secure the Sea Lines of Communications (SLOC) to China, and sever the Japanese LOC to the South much more effectively than from Luzon or the south China coast. In addition, the airfields on the island were more conductive for the Army Air Forces new B-29's, which could carry heavier loads of bombs to the Japanese Islands than from the more distant Luzon. Formosa's strategic location and multiple advantages seemed as the logical steppingstone to China's coast.[13]

Contrary to the Joint Chiefs of Staff, Pacific Theater commander's had a different view. General MacArthur, Admiral Nimitz and other ranking Naval commanders favored reoccupying the southern or central Philippines before conducting a direct assault on Formosa. These officers believed it would be impossible to secure the Allied LOCs to Formosa until Allied land-based aircraft from southern Philippine bases had neutralized Japanese air power on Luzon. In addition, General MacArthur proposed that the Allies would need to reoccupy not only Luzon, but also the entire Philippine archipelago before

they could completely sever the Japanese LOCs to the South. It was also concluded that a direct assault on Formosa would require air and logistical support from Luzon. Lastly, if the Allies assaulted Luzon first they could bypass Formosa and strike targets farther north, thus enabling them to end the war sooner.[14]

After much debate among the Senior Military Leadership between the War Department, the Navy and Theater Commanders, and the numerous courses of actions presented on the strategic plan to defeat Japan. The Joint Chiefs' issued a directive for the Allied Forces of the PTO, on October 3, 1944, which ended months of uncertainty, inter-service rivalry, and debates. The final decision was made. Luzon would be taken; Formosa would be bypassed. United States forces would recapture the entire Philippine archipelago in consecutive advances, just as General MacArthur had been planning ever since leaving Corregidor in March of 1942.[15]

Mission: The overall purpose of the Luzon campaign was to establish bases to support future operations North of Luzon; to deny the enemy use of the northern entrances to the China Sea; and to re-establish the Philippine Government in its capital city, Manila.[16]

The concept of the operation for Luzon encompassed a major amphibious assault landing, employing the largest force ever assembled in the South-West Pacific Area up to date, to establish a beachhead in the Lingayen Gulf. In order for this amphibious assault to be a success a combined arms fight would need to be executed with all the available resources of the Army Air Forces and the United States Pacific Fleet. Once the beachhead was established, the objective was to advance southward and seize the Central Plain through to the Manila area, establish a base of operations for naval and air

operations, and establish control over the remainder of the Island of Luzon; i.e. complete conquest of Luzon.[17]

General Douglas McArthur, Commander South West Pacific Area, entrusted Lieutenant General Walter Kruger, Commander of the 6th Army to lead the spearhead operation on Luzon a vital step in the liberation of the Philippines, and the defeat of the Japanese forces. Operational and logistics planning for this operation was difficult, since the 6th Army forces were scattered throughout the Philippine archipelago. The enemy composition, strength, and disposition throughout the Islands were vague. The planning staffs did not have a clear picture of the enemy's situation on the objective areas. Under this strategic duress, the 6th Army assigned its I and XIV Corps to conduct an amphibious assault on the beaches of Linguyen Gulf in central Luzon, to establish a beachhead, and be prepared to advance southward. Subsequent to this the I and XIV Corps were to advance and secure a crossing over the Agno River in preparation to conduct offensive operations, and to gain the initiative and exploit the enemy's weakness.[18]

The Luzon Campaign began on the January 9, 1945. The XIV and I Corps conducted the amphibious assault landings on the beaches of Lingayen Gulf area of central Luzon. Both the I and XIV Corps were abreast of each other, with the XIV Corps on the right. Bitter resistance was met on the beaches, General Yamashita the Japanese commander mounted strong defense positions on the left flank of the mountainous region, while leaving the central plains open. The Japanese defenses were not as effective as intended, and the 6th Army continued its advance as planned. A problem the 6th Army was not anticipating was the enemy composition and strength in the mountain area to the

northeast and east. This constituted a serious threat to 6th Army's LOC, which had to be safeguarded while continuing its drive south to secure the objectives on the Central Plain through to the Manila area. These LOC were vital, since the five divisions and one Regimental combat team available to the 6th Army, (the 6th and 43d Divisions and the 158th Regimental Combat Team, all of the I Corps) were all heavily engaged with the enemy, and there was no other means to push supplies to these units until reaching the port of Manila.[19]

In an exemplary display of proper use of forces the I Corps continued to pressure the enemy defenses and maintain their LOC open, while the XIV Corps pushed southward and secured the crossing over the Agno River. In rapid succession the XIV in an all out drive towards Manila captured the Clark Field area, and drove the enemy forces back into the mountainous area, west of Fort Stotenburg, and secured the crossings over the Pampanga River. The I Corps continued their offensive against the Japanese forces in the northeast, while at the same time protecting the base at Lingayen Gulf. In a month long offensive the XIV Corps and its subordinate units destroyed approximately 17,000 of Manilas 20,000 defenders, scattered the Japanese forces to the Zambales mountains, and drove into the Grace Park area of Manila, and liberated hundreds of Allied internees who were being held captive by the Japanese in Santo Thomas University.[20]

Units of the 8th Army executed two additional amphibious assault landings on Luzon. On January 29, 1945, the XI Corps and its subordinate units landed on the San Antonio-San Narcisco area of the Zambales province. On January 30, the 6th Army gained Tactical Control (TACON) of the 8th Army, XI Corps. The XI Corps was able to open the port of Manila (Subic Bay), and isolate the Bataan Peninsula; thereby preventing

an enemy withdraw thereto.[21] On January 31, the 11th Airborne Division, reinforced by elements of the 24th Division executed the second amphibious landing at Masugbu in the Batangas province. Approaching Manila from the south. On February 10 the 6th Army gained TACON of the 11th Airborne and 24th Infantry Division.[22]

On February 15, in a combined amphibious and ground assault the 6th Army was able to establish control over the southern portion of the Bataan Peninsula, and on February 16, a combined airborne and amphibious assault was executed to capture the island fortress of Corregidor. Following the capture of Corregidor, the remaining islands in Manila Bay were captured by the XI Corps in a series of shore-to-shore operations, which culminated with the capture of Garabao Island on April 16, 1945. After various other offensives in southern and central Luzon, the 6th Army continued its drive towards the North of the Island, in the upper Cagayan Valley taking the Luzon campaign to a proximal termination.

After the 37th Infantry Division of the I Corps was dispatched northward into the Cagayan Valley, the Airborne forces were parachuted into the enemy's rear near Aparri, to assist in reinforcing guerrilla to block all possibility of escape to the north. When contact was established with the remaining enemy forces, their defeat was sealed. On June 26, 1945, the Luzon Campaign came to a close with the 6th Army in complete control of Luzon; thus, establishing the bases needed to conduct follow-on operations on the Japanese archipelago.

Airborne Operations (Southwest Pacific Area): In order for the Luzon Campaign to be a success, the United States forces would have to recapture the entire Philippine archipelago in consecutive advances. With the arrival of the 503rd Parachute Infantry

Regiment and the 11th Airborne Division in the southwest Pacific, General MacArthur now possessed a valuable asset to facilitate his three-pronged approach, executing his vision of combined arms warfare (Sea, Air and Ground Forces) aiming to recapture Luzon.

General MacArthur's initial concept for the employment of his airborne arm was seizing airfields that, in turn, provided the airdromes to launch aircraft to provide air coverage for subsequent amphibious assaults. These airstrips were of strategic importance, because they provided the capability to launch aircraft to strike the next successive island to be clutched. Thus the airborne forces provided the element of surprise captured the airfields needed, and exploited important tactical areas in conjunction with or pending the arrival of other naval or military forces.

MacArthur in accordance with the 1943 plan that was decided by the Joint Chiefs of Staff to seize and develop large air, naval and logistical bases in the strategic triangle (south China Coast, Formosa and Luzon) launched an offensive. It was deemed that Allied forces would have to secure air bases in the Southern or Central Philippines from which to neutralize Japanese air power and mount amphibious attacks on Luzon. General MacArthur struck westward toward the strategic triangle on an axes of advance, driving up the north coast of New Guinea to Morotai Island, located between the northwestern tip of New Guinea and Mindanao, southernmost large island of the Philippines archipelago.[23]

General MacArthur's advance north began through northern New Guinea. His intent was to gain a strategic foothold, whereby the essential Japanese LOC to the rich resources of the Netherlands East Indies, Indochina, Thailand and Burma would be

severed. General MacArthur faced a series of strong Japanese concentration along New Guinea's Northern Coast. Intelligence situation reports determined that approximately 240,000 Japanese were operating in the South West Pacific Area, and 50,000 Japanese were entrenched in western New Guinea alone between MacArthur's forces and Luzon. Rather than assault the Japanese strong points head on, he conducted a series of amphibious assaults along the coast bypassing the Japanese. His method was to advance along the Northern New Guinea coast by moving his land-based bombers westward in successive jumps occupying new airfields and logistic bases from which to stage their next jump. Air transports or amphibious landings to seize the next objective rapidly deployed ground forces. Once that new objective was taken, additional airfields and logistic nodes were established. Enemy air and naval forces were eliminated along the line of advance to facilitate each jump. In order to execute this strategy he used his airborne arm to seize these airstrips. MacArthur and his commanders continued to repeat this procedure; thereby, neutralizing, isolating and defeating Japanese strong points. With his focus on New Guinea, a base of operations would be needed to launch his strategy, and seizing the Japanese airstrip at Nadzab on New Guinea would be the starting point; using his airborne arm, would be how he would accomplish it.[24]

Airborne Operation in Nadzab, New Guinea

The 503rd PIR would execute the first Airborne Operation in the PTO to capture the Japanese airstrip at Nadzab, New Guinea. The Nadzab was not only important for the airstrip, but also for its location along the Markham River Valley to the west of the Huon Peninsula. The Markham and Ramu Rivers were two major waterways on the island of New Guinea. These two rivers formed a valley that separated the Huon Peninsula from

the remainder of New Guinea. This valley provided access to the Japanese bases of Wewak and Madang along the northern coast of New Guinea. Capturing this key terrain at Nadzab would block that valley route. While possession of the airstrip would give the Fifth Air Force another forward base to support its air campaign against Rabaul and Wewak. Success of the 7th Australian Division's attack on the port city of Lae depended on the possession of the airstrip at Nadzab to allow the division to air-land its ground forces.[25]

On August 24 General MacArthur arrived at Port Moresby to be present for the final stages of the planning and the execution of the operation. This was a surprise visit to Major General Vasey, commander of the 7th Australian Division who was charged with the Nadzab offensive. After receiving his operations brief, MacArthur agreed on the concept of the operation. The 7th Division published the operations order on August 27. The intent of the operation was to secure Nadzab in order to conduct offensive operations against Lae and to prevent the Japanese from sending reinforcements up the Markham Valley. The tasks given to the 503d Parachute Infantry Regiment were as follows: (1) Capture area Nadzab-Gabmatsung-Gabsonkek on Z-Day—object covering preparation of a landing strip. (2) Establish roadblock across Markham Valley Rd. in area of junc. Rd and track 445546 - object preventing enemy movement into Nadzab along this road. (3) Prepare landing strip on site of present Nadzab emergency landing field with utmost speed.[26]

MacArthur had not established the date for the operation when the 7th Australian Division published its order. The final date did not come until September 1, when

Kenney made his recommendation to MacArthur based on the weather forecasts. Z-Day was one day after the 9th Australian Division's amphibious assault to the east of Lae.[27]

Colonel Kenneth H. Kinsler, commander of the 503rd PIR upon receiving his orders summoned his three-battalion commanders for a “special tactical briefing.” Colonel Kinsler himself conducted the briefing. He announced the regiment’s missions of seizing the Nadzab airstrip, and in a combined effort with the Australian engineers preparing the airfield to receive the follow-on airlands from the 7th Australian Infantry Division. One on the ground, the 7th would continue with their attack on Lae from the west, and the regiment would guard the airfield.

Colonel Kinsler assigned individual missions to each of his Battalion commanders. Lieutenant Colonel John W. Britton and his 1st Battalion were to jump directly onto the airfield and clear it of all enemy troops. Lieutenant Colonel George M. Jones 2nd Battalion would jump north of the field t secure the village of Gabsonkek and provide flank protection for Britton’s 1st Battalion. Lastly Lieutenant Colonel John J. Tolson’s 3rd Battalion would jump east of the airfield to secure the village of Gabmatzung.[28]

The 503rd would be supported by 96 C-47s of the 317th Troop Carrier Group. The 1700 paratroopers would be lifted by 79 C-47s while the rest carried supplies and equipment bundles plus an Australian artillery section. In the lead were six squadrons of B-25 bombers, which would strafe the DZ and surrounding area in waves. Three A-20 attack bombers on either side of the C-47 route would lay smoke screens on both sides of the DZ, while fighters flew cover. The troop transports took off from Port Moresby, Papua at 0825, upon crossing the Owen Stanley Mountains, the first three transport

flights would descend to 500ft to arrive over Nadzab, the first jumpers exited the aircraft at 1022. All jumpers were dropped in under five minutes, with the 1st, 2nd , and 3rd battalions on DZs B, A, and C, respectively. The Regimental Headquarters and Service Company jumped on field B and the artillery section on DZ F.[29]

All battalions assembled, the 1/503rd secured the airfield, 2/503rd secured Gabsonkek and blocked the northwest approaches, and the 3/503rd secured Gabmatzung and established a blocking position on the edge of the Japanese held Lea. All transports delivered supplies and the artillery, and along with the engineers readied the airstrip to accept transports carrying the 7th Australian Division ground forces.

The Operation was a complete success, and the only full regiment jump delivered in the PTO. General MacArthur declared it to be "the greatest example of combat efficiency he had ever witnessed." Brigadier General George M. Jones, who at the time was the commander of 2nd Battalion, 503rd PIR during the Nadzab airborne operation in a letter to one of his paratroopers, while writing the regimental history stated: "The 503rd parachute drop at Nadzab had the greatest impact on the development of the airborne concept. This airborne operation achieved more than just its tactical objectives. It was the first unqualified successful American parachute drops of World War II, and was decisive in allowing the advocates of vertical envelopment in making a convincing case for the soundness of the airborne concept, as well as that of the airborne division. We will never know, but in my opinion, the jump saved the airborne effort."[30]

The airborne assault at Nadzab heavily influenced the deliberations of the Swing Board, which was a special panel chaired by General Joseph Swing to review and evaluate the practicality of large airborne operations. The Swing board was mandated by

the Chief of Staff of the Army General Marshall after Operation Husky. The purpose of the board was to recommend changes in training, doctrine and employment principals for airborne operations, or to examin if airborne operations were a necessary type of warfare. Although the Swing board was still concluding its findings, both the examples of Sicily and Nadzab provided valuable lessons that would shape the basic airborne doctrine.

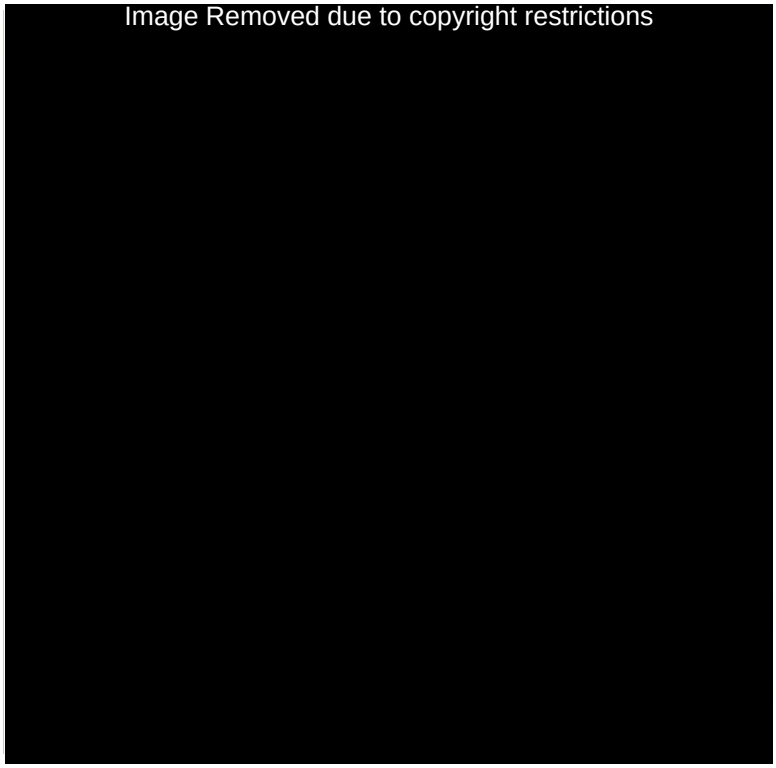

Figure 18. Airborne Operation in Nadzab, New Guinea

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 58.

Airborne Operation in Noemfoor Island

Next airborne operation on the approach to Luzon was the 503rd PIR Airborne Operation on Noemfoor Island on the 3rd, and 4th, of July 1944. This was the only parachute operation in the Pacific area during 1944. The Biak and Noemfoor islands are located in Geelvink Bay near the west end of the New Guinea. The Japanese were building airstrips on both islands; however, it was determined that the airfields already occupied by the Allied forces were sufficient to support the up and coming Mariana Islands Campaign. Allied forces encountered heavy enemy resistance upon their amphibious landing on the Island of Biak. The 503rd was originally tasked as a sea-delivered reserve, but it was determined they were not needed. Fighting continued for over a months period, and the Allied forces determined that the rebuilt airfields, they had occupied would not sustain the logistical and air capabilities needed for the Mariana Islands Campaign. It was at this time the smaller island of Noemfoor was selected for building additional airfields to provide the resources and capabilities needed; and to deny the Japanese a staging area to reinforce their forces on Biak from mainland New Guinea.[31]

The 158th Infantry Regiment (separate) conducted an amphibious landing on July 2, 1944, reinforced by the 503rd PIR to capture the three Japanese built airstrips and provide security, for the combat engineers rebuilding the airfields. The 503rd located at the Cyclops airdrome at Hollandia was identified as the reserve. A lack of Intelligence on the enemy strength and composition on the island, an how much resistance the 158th Infantry Regiment would encounter, it was decided that an airborne assault would

facilitate a rapid capture of the airfields, for the follow-on operation to the Mariana Islands. The 503rd would jump in.[32]

Due to aircraft shortages, only 38 C-47 formed the 317th Troop Carrier Group. The plan was for one Battalion to be dropped each day between July 3rd -5th. The amphibious assault landing was executed at the Kamiri Airdrome on the northwest side, and it was captured immediately. The enemy troops withdrew to the islands dense interior quickly. The 1/503rd on July 3, took off at 0630 from the airdrome in Hollandia, and jumped 739 men, to include Headquarters and Service companies, at 1000. The jump was conducted at an altitude of 400ft, with numerous hazards. The airstrip (250 x 5000ft) was adjacent to the sea on the islands northwest coast; the area around the DZ was covered with trees, Japanese aircraft wreckage, U.S Army engineer equipment, and beneath the runway's mud was hard rock coral.

The 3/503rd executed their drop on July 4, even though attempts were made to clear the wreckage and reposition equipment, paratrooper's jumped from C-47s flying in a single column vs. V formation, and it was not enough to mitigate the injuries sustained by the paratroopers. The 2/503rd jump on July 5 was canceled and they were delivered by LCI at 1115 on July 11 at Roemboi Bay on the southwest coast after being airlifted form Hollandia to Biak 60 miles away. While 1/503rd and 3/503rd suffered 9 percent casualties, their timely introduction sped up securing of the island. The 503rd was assigned the southern portion of the island to clear, while the 158th cleared the north. After numerous encounters with the enemy the island was declared secured on August 31.[33]

Even though planning for airborne operations during this time period had reached advanced stages, it is still not known why, the lack of Pathfinder support was none existent.[34] Having a Pathfinder team on the ground prior to the jump to evaluate and survey the DZ, could of minimized the large percentage of injuries suffered. Establishing navigational visual aids could have also curtailed the scattering of paratroopers, in or around the DZ. In addition, they could of assisted in removing the major obstacles that were positioned on the DZ.

Initial plans for the liberation of the Philippines called for a landing on Mindanao in October and another on Leyte in November. On September 2, the 503rd was assigned an airborne mission on Leyte, to be executed on November 15th. This mission was canceled and the 503rd arrived at a later date by sea as a reaction force. On January 1, 1945, the 503rd PIR was transferred for the Sixth Army to the Eighth Army control with a mission to seize Nicholas Field south of Manila. However, the mission was canceled, and on the February 6th the 503rd was alerted for the Corregidor airborne assault and was transferred back to the Sixth Army.

New Guinea had fallen by August 1944. On September 15, MacArthur landed troops on Morotai, a large island some two hundred fifty miles northwest of New Guinea. With the capture of Morotai, MacArthur had advanced to a point less than three hundred air miles from the gateway to the Philippines.[35]

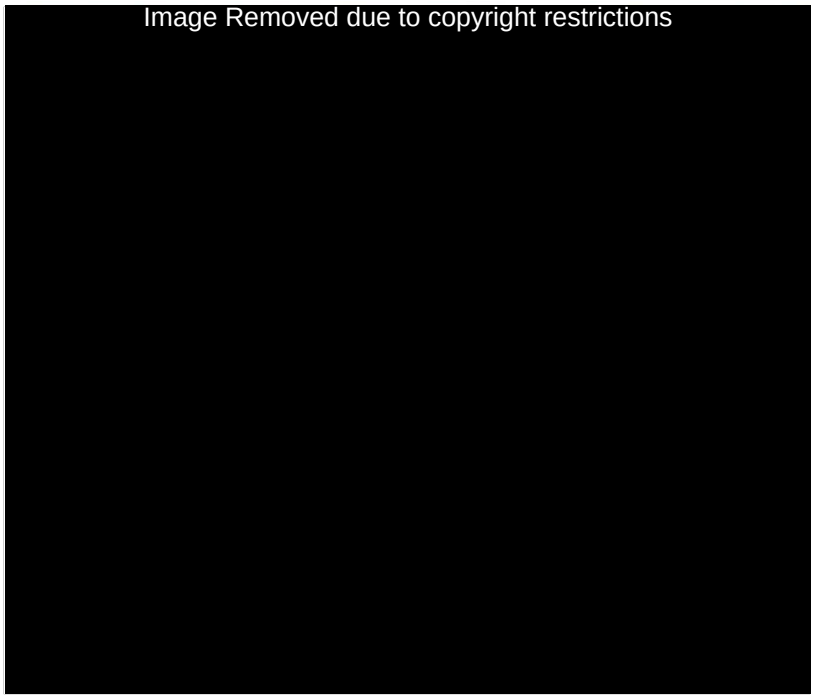

Figure 19. Airborne Operation in Noemfoor Island

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 62.

Figure 20. Airborne Operation in Noemfoor Island

Figure 21.

Source: James A. Huston, *Out of the Blue: U.S. Army Airborne Operations in World War II* (West Lafayette, IN: Purdue University Studies, 1972), 224; Gerard M. Delvin, *Paratrooper! The Saga of U.S. Army and Marine Parachute and Glider Combat Troops During World War II* (New York: St. Martin's Press, 1972), 427.

Airborne Operation in Leyte

Japanese intelligence projected that in September of 1944 the Philippines were going to be invaded by the Americans. Their staff estimates predicted the Americans would first land on the island of Luzon, the largest Philippine Island, and the site of its capital city, Manila. Nonetheless, MacArthur throughout the Luzon campaign had used numerous deception tactics, by continuously misleading his enemy and landing where he was least expected. On October 20, 1944 he landed four divisions of General Kruger's 6th Army ashore, not on Luzon but on Leyte. Wading ashore the same day on Leyte's Palo Beach, MacArthur through a loudspeaker broadcasted, "This is the voice of freedom, General MacArthur speaking. People of the Philippines: I have returned!...At my side is your President, Sergio Osmeno, worthy successor of that great patriot, Manuel Quezon, with members of his cabinet. The seat of your Government is now, therefore, firmly reestablished on Philippine soil." Having been one of General MacArthur's proudest days, at last he had fulfilled his pledge of " I shall return."[36]

The invasion of Leyte was the largest amphibious operation conducted by the American and Allied forces up to date in the Pacific. The Allied naval forces, which consisted primarily of the U.S. Seventh Fleet, commanded by Vice Admiral Thomas C. Kinkaid consisted of 701 ships, including 157 warships; Admiral Kinkaid's fleet would transport and put ashore General MacArthur's landing force. The purpose of the invasion of the Island of Leyte was to continue to sever the Japanese LOC, and to rapidly seize and control the Leyte Gulf and Surigao Strait area in order to establish air, naval and logistics bases to support further operations into the Philippines and the invasion of Luzon. Furthermore, the island of Leyte would separate the Japanese occupied islands of

the Philippine archipelago into two parts, with a strong American force between them, and the Leyte Gulf was large enough to accommodate the large number of ships required for the amphibious assault on Luzon.[37]

In preparation for the amphibious landing, underwater demolitions teams were to clear the beaches, and destroy any obstacles. On October 17, three days prior to the landing, mine sweepers would conduct minesweeping operations, and elements of the 6th Ranger Battalion would capture three small islands inside Leyte Gulf to provide the navigational lights needed for the amphibious transports.[38]

Air support for the Leyte operation would be provided by the Seventh Fleet during the transport and amphibious phases, then transferred to Army Air Forces, commanded by Lt. Gen. George C. Kenney, when conditions ashore allowed. Later, Air Support coverage would be provided by the four fast carrier task forces of Admiral Halsey's Third Fleet, however, he would remain under the command and control of Admiral Nimitz.[39]

As ships enter the harbor, a naval bombardment was to commence against airfields, gun emplacements, ammunition and fuel objectives, ground troops, beach defenses, and strong points. On October 20, the Navy was to cover the approach of the transports and provide counter-battery fire. This same day the major amphibious force of the 6th Army would land.

The U.S. Sixth Army, commanded by Lt. Gen. Walter Krueger, consisted of two Corps, with two divisions each, these units would conduct the amphibious assault. Major General Franklin C. Sibert's X Corps included the 1st Cavalry Division and the 24th Infantry Division, and Major General John R. Hodge's XXIV Corps included the 7th and

96th Infantry Divisions. The Sixth Army reserve elements would include the 32nd, 77th Infantry Divisions and the 381st Regimental Combat Team.[40]

On October 20, termed “A-day,” the X and XXIV Corps would land at separate beaches on the east coast of Leyte. The X Corps would land on the right (north); the XXIV would land fifteen miles to the south. The X Corps would rapidly secure its first objective, the capture of the city of Tacloban and its airfield, then proceed to secure the strait between Leyte and Samar Islands, and continue to the Leyte Valley on the north coast of the Island. The XXIV Corps' mission was to secure the southern end of Leyte Valley in order to develop an airfield and logistical base. The X Corps, 21st Regimental Combat Team would come ashore some seventy miles south of the main landing beaches to secure the strait between Leyte and Panaon Islands.

By the end of A-day, the Sixth Army had moved inland and controlled the Panaon Strait at the southern end of Leyte. The X Corps sector, the 1st Cavalry Division held Tacloban airfield and the 24th Infantry Division had taken the high ground commanding its beachheads Hill 522. The XXIV Corps the 96th Infantry Division secured the approaches to Catmon Hill, the highest point in both corps beachheads, and the 7th Infantry Division had taken the town of Dulag.

On November 18, 1944, Major General Joseph Swing, almost a month after the initial October 20th landing arrived on Leyte and established a base camp at Bito. Four days later the 11th Airborne was attached to the XXIV Corps and relieved the 7th Infantry Division along the line Burauen-La Paz- Bugho. The 187th GIR with the 674th and 675th Glider Field Artillery Battalions (GFAB) converted to executing an Infantry mission, thereby, securing the airfields and guarding the rear installations of XXIV

Corps. The 188th GIR was tasked with securing the division's rear and conduct aggressive patrols to eliminate any enemy troops in the area, and the 511th PIR was assigned the task of destroying all Japanese formations in the division's operational area.

The 511th PIR attack began on November 28 when it relieved the 7th Infantry Division. The 511th advanced with two battalions abreast along the parallel trails, while keeping one in reserve for quick deployment to the front. The objective was to continue moving forward until the Regiment had crossed over the Mahonag Mountains and descended to Ormoc Bay on the islands western shore. The combination of Japanese resistance, treacherous terrain, heavy rainfall made patrolling over thick wet jungle growth, slow and painful. Resupply became progressively more difficult, and the division employed piper Cub aircraft to air resupply food and ammunition. It was determined that artillery would be needed to provide indirect fires in support of the 511th advance. Due to the terrain carrying artillery pieces forward was believed to be impossible. Lieutenant Colonel Nicholas G. Stadtheer, commander of the 457th Parachute Field Artillery Battalion, would devise a plan to drop his Battery A and all of its cannons, into the infantry's positions.[41]

The 11th Airborne Division's first combat jump was a piecemeal operation conducted between November 27th and December 4th (codenamed Operation Tabletop) a Howitzer Battery (Battery A) was parachuted into Manarawat base. Twelve C-47s were required to drop the battery, but none were available. Only a single C-47 based out of San Pablo for air-sea rescue was available. The pilot proceeded to make 13 runs, dropping a howitzer with ammunition, and equipment with gunners in each sortie.

The 11th Airborne Divisions Pathfinder teams were not used in the airborne operation in Leyte, which resulted in the first jumpers and equipment to land two miles from the intended DZ, at Manarawat. After the initial drop the pilot made the necessary adjustments, and in thirteen consecutive jumps was able to drop a total of 241 personnel and all their respective equipment into their new firing positions.

On the evening of December 6, the Japanese bombers flew across the San Pablo airfield and released their bombs. Following in the paths of the bombers, Japanese paratroopers began parachuting on the airfield. The Japanese tried to disrupt operations on Leyte by conducting two small-scale airborne raids. While the Japanese tried to deliver an estimated 500 paratroopers of the 3rd and 4th Raiding Regiments to attack several key American airfields (Tacloban and Dulag), their mission failed when most of their aircraft were shot down or crashed landed. The second raid was carried out around the Burauen airfield, where the 11th Airborne Division headquarters was located. Again majority of the aircraft were destroyed, and approximately 60 jumpers descended on the San Pablo airstrip. Most were killed by an ad hoc group of artilleryman, engineers and support troops, which were led by General Swing. This was the only instance in which paratroopers dropped on to another parachute unit.[42]

Figure 22. Japanese Attacks on Burauen Airfield

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 67.

Continuing on their offensive the 11th Airborne, operating in the central mountain regions southeast of Ormoc, had been waging aggressive warfare along a wider sector. The division had annihilated all resistance within the area. Upon the defeat of enemy troops on Purple Heart Hill the 11th Airborne division reached their objective and defeated the enemy. All of Leyte was in American hands. On January 15, 1945 the division had returned to its base camp at Bito Beach, proud to have, been part of the XXIV Corps mission of clearing the Island of Leyte.[43]

Figure 23. 11th Airborne Division Last Battle on Leyte (Purple Heart Hill)

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 67.

Airborne Operation in Tagaytay Ridge

The Luzon Campaign began on the January 9, 1945. The XIV and I Corps conducted the amphibious assault landings on the beaches of Lingayen Gulf area of central Luzon. On January 22, General Swing received 8th Army Field Order (WARNO) Number 17 that alerted the 11th to take part in an impeding division operation on Luzon. The order directed, in support of the amphibious invasion from the 6th and 8th Armies on the Philippine island of Luzon, the 11th would land one regimental combat team on X-Day (attack day) at H-hour in the Nasugbu area, seize and defend the beachhead. General Swing gave this mission to the 188th and 187th GIR, they would embark to Luzon by sea. The 511th PIR would be prepared to move by air from Leyte to Mindoro bases, land by parachute onto a Tagaytay ridge several miles inland from the invasion beaches and

secure key road junctions; after assembling the unit would be prepared to conduct follow-on-operations to the north and east towards Manila.[44]

At dawn on January 31, the 188th GIR led the amphibious assault off the Nasugbu's shore in Southern Luzon. At 0830 after, navy ships shelled the beach with preparatory fires, eighteen A-20 Havoc light bombers and nine P-38 Lightning fighter aircraft strafed the beach; the beachhead was established. The regiment faced light Japanese resistance, and advanced up the islands arterial Highway 17 to deny the Japanese time to establish their defenses further inland, followed by the 2/188th GIR moving south crossing the River Lian and securing the division right flank, thus securing Nasugbu. The rest of the 188th and then the 187th GIR completed their landings and continued to press inland on Highway 17.[45]

At 0700 on February 3, the first plane carrying the paratroopers of the 511th PIR took off from the San Jose airstrip on Mindoro. By 0715, forty-eight planes flying in V of V's formation, proceeded on course at an altitude of six hundred feet, and were escorted by P-61 "Black Widow" night fighters and P-38 "Lightning's." The planes flew north over Mindoro, then towards Bantangas Bay and then on to Lake Taal, which bordered the southern edge of Tagaytay Ridge. Finally the planes flew parallel along the long axis of Tagaytay Ridge along Highway 17. The ridge itself was an excellent DZ for a mass jump. It was open, about 2,000 yards wide and 4,000 yards long, and plowed in some places. The 511th final approach to the DZ met with a solid cloudbank, which completely covered the ridge at about five hundred feet. At this point the ridge's southern cliff and recognizable landmarks were hidden form view. However, effective low-level navigation

by the aircrafts, and a break in the cloud cover over the final checkpoint at Highway 17 enabled the lead aircraft to see the navigational aid on the DZ.[46]

After the experienced gained in both the Mediterranean and European theater of operations, it was established that airborne divisions deployed Pathfinder teams to provide navigational assistance using radio beacons and lighting materials, to include marking out the leading and trail edges of the DZs. In order to assist the troop carrier crews and jumpmasters identify the precise point of impact for the drop. On February 1, 1945, the 511th PIR Regimental Pathfinder teams consisting of volunteers from the reconnaissance and demolition platoons infiltrated through Japanese lines to Tagaytay Ridge to mark the DZ.[47]

At approximately 0815 Colonel Haugen, the Regimental Commander stood at the door of the lead plane, sticking his head out the door, looking for the green smoke signal. This would indicate that Lieutenant David Hover and his Pathfinders had landed with the amphibious assault, and infiltrated successfully ahead of the ground elements of the division, and made it to Tagaytay Ridge to provide navigational assistance by marking the DZ with Green Smoke pots. When Colonel Haugen saw the smoke, 345 paratroopers in the first eighteen planes of the first lift, followed him out the door and all landed on the DZ. The second lift of the first flight, 570 men landed approximately 8000 yards from the DZ, this is attributed to jumpmaster error.[48]

At about 1210, the second lift approached the ridge from the east; however, some 425 paratroopers exited the aircraft and missed the DZ landing on the ridge itself. Another 1,325 paratroopers jumped early and landed four to six miles to the east and northeast. Again this is attributed to troop carrier pilot error. It is assumed that the pilots

saw the chutes from the first lift on the ground and turned on their green lights ahead of schedule, and prior to making visual contact with the smoke provided by the Pathfinder team. In spite of the scattered drop all paratroopers assembled within five hours.

The 511th would parachute on to the ridge near its west end and attack westward to trap the Japanese rear holding up the 188th GIR. The 511th met little resistance, since the local guerrillas had mostly cleared out the Japanese. At approximately 1515 General Swing and his command post (CP) moved to the Manila Hotel Annex on the ridge overlooking Lake Taal, and the operations staff concentrated on the division's reorganization during the remainder of the day. Lieutenant General Eichelberger, commander 8th Army met General Swing at his CP and gave him a follow-on-mission to attack Manila, another "pearl of the Orient."[49]

The 11th Airborne rapidly advanced toward Manila, enabling the 8th Army to continue defeating the Japanese resistance that was left after the initial amphibious landing. After reaching Manila, the 8th Army assigned the 11th Airborne Division back to its parent unit, General Walter Kruger's 6th Army. The Luzon Campaign now depended on the ability of the 1st Cavalry Division and the 11th Airborne to establish contact and seize several key objectives.[50]

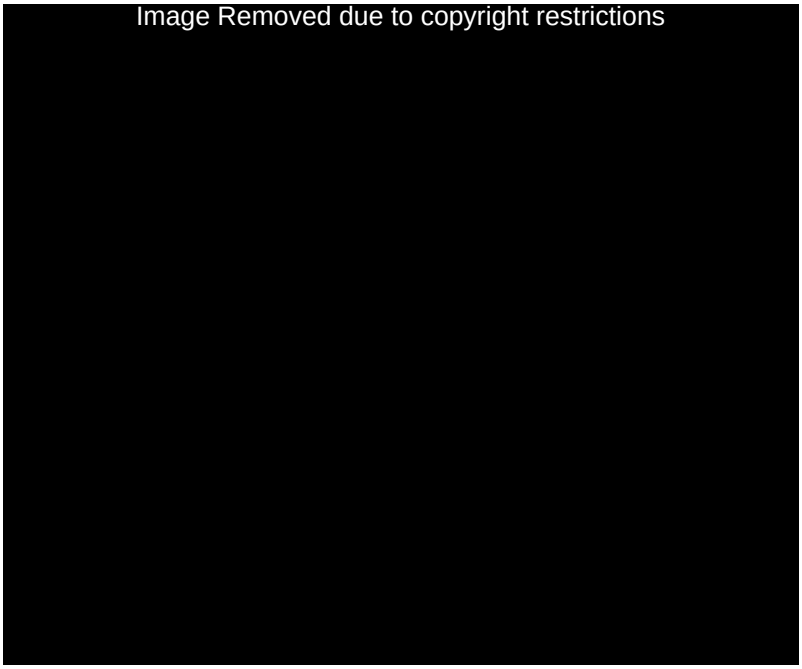

Figure 24. Airborne Operation in Tagaytay Ridge

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 70.

Airborne Operation in Corregidor

One of the most difficult, unorthodox, yet most successful, airborne assaults attempted during WWII was the assault by the 503rd PIR on the tiny Island of Corregidor. Corregidor is a tadpole-shaped island of volcanic rock that sits at the mouth of Manila Bay. It has aptly been called a fortified rock. For over 300 years this island at the entrance of Manila bay had been used to protect the "Pearl of the Orient." The island is 3.5 miles long and 1.5 miles wide at its broadest point, which lies on Topside (the head of the "tadpole") the highest point on the island. Towards the tail, the terrain slopes off to a small plateau known as Middleside. Here it drops to the waist of the island, 300 yards wide, Bottomside. Malinta Hill to the rear of Bottomside rises to 390 feet.

Before the U.S. involvement in the War in December of 1941, U.S. Army engineers had dug a tunnel 1,450 feet long, 30 Feet wide at the base, and 20 feet high at the arched ceiling through Malinta Hill. Branching from the main tunnel were twenty-five laterals each 200 feet long. The walls, floors, and overhead were all reinforced concrete. Behind Malinta Hill stretched the long narrow tail of the island, where Kindley Field was located, a 2,000-foot airstrip. Before WWII, the U.S. had built Corregidor into a seemingly impregnable fortress bristling with twenty-three batteries of coast artillery guns. Corregidor also was the location of General MacArthur's headquarters before he left to Australia in 1942, and where General Wainwright surrendered to the Japanese on May 6, 1942.[51]

Since General Yamashita's troops were all but beaten on the Philippine mainland in February of 1945, there was probably no strategic or tactical need for the Americans to attack Corregidor. The island was no longer of any value to the Japanese or the U.S., it was a thorn in the side for the Americans. A continuous barrage of coastal artillery was being fired upon Navy ships attempting to sail in the narrow straits around the island toward Manila by Japanese emplacements on the island.

On February 3 under the direction of General MacArthur, the 6th Army staff began to formulate a plan for a combined parachute-amphibious attack on Corregidor. The airborne portion, which would be the main assault force "Rock Force" was going to be executed by the 503rd PIR on Topside, and the amphibious assault element, which would be the supporting attack would be executed by the 2nd Battalion, 34th Infantry Regiment, part of the 24th Infantry Division. They would land on Lack Beach (San Jose) to establish the amphibious portion.[52] It was expected that the Japanese would be caught

completely unaware, because an airborne operation would not be feasible on the island due to its size, rugged terrain, high winds and the obstacles on any possible DZ. The risks were high, and were predicted to be great; in fact, drop casualties were expected to be 20 percent. However, the element of surprise far outweighed the risk involved.

The mission of the 503rd PIR was to establish security for the landing zones, extend the perimeter out to control Topside, conduct "link-up operations with the amphibious force, and destroy the enemy force. The mission for the 2/34th Infantry Regiment was to reestablish the beachhead, split the island, perform link-up operations, and clear Bottomside of the enemy. The final end state; secure the island.[53]

Daily bombings by the 5th Air Force commenced on the island beginning on January 23, 1945 and a total of 3,128 bombs were dropped on the island. In addition at dawn on D-day (February 15) naval gunfire began preparatory fires to inflict casualties, destroy supply depots, disrupt and destroy Japanese communications networks and command and control (C2) nodes, to continue diminishing the enemy strength that was located on Topside. On D+1 prior to the parachute assault, thirty-one A-20s strafed the island at possible enemy targets. To include naval gunfire at designated targets, primarily coastal artillery gun positions.[54]

As previously mentioned the airborne assault phase of the operation was restricted by size, location of the DZs, wind speed and number of aircraft available. Both DZs that were going to be used for this operation were located on Topside. DZ A was the old parade grounds, which was 460 meters in length and the width varied from 60 to 210 meters, going southwest. DZ B was the old golf course, which was about 460 meters in length and the width varied from 180-210 meters. At the approach ends of the DZ were

precipitous cliffs that dropped off abruptly into the Manila Bay and on the far side were bomb shattered frameworks and rubble-wrecked buildings. Both DZs were very small with numerous debris, tree stumps, and large bomb craters.[55]

On February 14, 1945 the Regimental field order (FO No. 9) was published. It was decided that the paratroopers would be delivered in three lifts. Two lifts would take place on D+1 (February 16) and the third on D+2 (February 17). Each lift was to have three passes over the DZ with an alibi pass if needed, one for each DZ, with 600' separation between aircraft. The jump altitude would be 1150' above sea level and 550' above Topside. The aircraft would be traveling at 100 mph. This would equate to approximately 6 seconds over the DZ, dropping 10-12 jumpers, with a planning factor of 8 jumpers. Fifty-eight planes would be use for the drop, in a single ship formation, with twenty-five second intervals between planes. The planes designated to fly over DZ A would fly counterclockwise circle; the planes over DZ B would fly clockwise.

At 0715, the first lift of fifty-one C-47s from the 317th Troop Carrier Group carrying paratroopers from the 503rd took off from the airdrome on San Jose, Mindoro. At 0833, three minutes behind schedule the first aircraft lead by Lieutenant Colonel John Erickson 3d Battalion, 503rd PIR and his stick of 8 paratroopers jumped over DZ A. Due to the DZ size and the number of jumpers that could exit the aircraft at one time, it required more than an hour for the Infantry Battalion, Artillery Battery, and supporting detachments to complete the first drop. There was 15 percent casualties sustained, however, the assault took the enemy by surprise and light resistance was encountered.[56]

Figure 25. Airborne Operation on Corregidor

Source: James A. Huston, *Out of the Blue: U.S. Army Airborne Operations in World War II* (West Lafayette, IN: Purdue University Studies, 1972), 226.

The second lift, of fifty-one C-47s took off at 1100 hrs from Mindoro and arrived over the DZ at 1215. All paratroopers exited the aircraft as planned. The amphibious attack, striking at 1040, by 3/34th Infantry Regiment landed on Black Beach (San Jose), and by 1100 hrs the Thirty-fourth Infantry had reached their objective and secured Malinta Hill. The artillery batteries from the 503rd were providing indirect fire in support of the offensive to secure Malinta Hill. The third lift was cancelled and elements of the 503rd extended their perimeter and linked-up with elements of the 3/34th. Mopping up continued for two weeks, and the surprise and tactical advantage gained in the initial assault was decisive. Corregidor was secured![57]

The operation to recapture Corregidor was a paradigmatic example of combined arms warfare and inter-service cooperation and coordination. What is baffling is the fact

that Pathfinders were not used during this operation by the 503rd. Granted the 503rd had not used any Pathfinder teams in their previous jumps in Nadzab and Noemfoor, but due to the risks associated with this airborne assault, the size of the DZs, rugged terrain, high winds and the obstacles on the DZ, compounded by a 20 percent expected casualty rate the use of Pathfinders was to be ideal. Why airborne planners did not consider this possibility is not well understood by this author.

The previous airborne operation in Tagaytay ridge conducted by the 11th Airborne Division employed the use of Pathfinders on their airborne assault on the ridge. Airborne Planners were aware of their previous use in this campaign their capabilities and abilities to mitigate risks on the DZs. If Pathfinder teams would have been used, and employed their tactics and techniques on the DZ, they could have mitigated some of the casualties sustained on the DZs on Corregidor.

General MacArthur made his triumphant return to Corregidor on March 2, 1945. With a keen sense of recent history and a flair for the dramatic, he elected to return to the island the same way he had been forced to leave, just nine days short of three years, aboard a U.S. Navy PT boat. Once he reached the island he was given a tour of the battleground, and then escorted to the parade field, where Colonel Jones saluted him and said, “Sir, I present you Fortress Corregidor.” MacArthur saluted him back and congratulated the troops on their heroic achievement of reclaiming the island. MacArthur glanced at the bent but unbroken flagpole behind him and said, “I see the old flagpole still stands. Have your troops hoist the colors to its peak and let no enemy ever haul them down.” Old Glory was hoisted to the top of the pole. This was the last combat jump the 503rd performed in WWII, but not the last mission.[58]

Figure 26. Airborne Operation in Corregidor

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 74.

Airborne Operation at Los Banos

After the amphibious landing at Nasugbu, Batangas Province and airborne operation at Tagaytay Ridge on January 31, 1945 on the island of Luzon, the 11th Airborne Division advanced rapidly to the suburbs of Manila. By February 4 the division met a strong Japanese defensive in the Nicholas Field and Fort William McKinley area, and became heavily engaged with the enemy.

While the 11th Airborne Division was combating the Japanese forces in the suburbs of Manila, General MacArthur received an intelligence report indicating that American and Allied internees and POWs were being incarcerated at the Japanese internment camp at the village of Los Banos located on the southern shore of Laguna De Bay.

General MacArthur concluded that the internees needed to be rescued immediately. A directive, assigning the mission to liberate the prisoners was issued to the 11th Airborne Division on February 4, 1945. Due to General Swing's division being heavily engaged with the enemy the mission was not able to commence.[59]

General Swing tasked the division G-2 (Intelligence Officer), to gather all available information about Los Banos. Working close with Filipino guerrilla fighters, and one aerial photograph, the G-2 was able to complete a fairly detailed picture of the prison camp's exterior. Desperately needing information concerning the interior layout of the camp and condition of the prisoners, on February 18 Filipino guerillas delivered Peter Miles to the 11th Airborne CP in Paranaque. Miles was a civilian engineer who had recently escaped from the camp. Based on the accurate and detailed information given my Miles, the division G-3 (Operations Officer) was able to draw up a plan for liberating the prisoners at Los Banos. It was recognized as the masterpiece for large-scale liberation attack. It combined the use of air, land and water to transport the raiding force to the objective; the target date was set for February 23.[60]

Figure 27. Los Banos Internment Camp Sketch Map

Source: Gerard M. Delvin, *Paratrooper! The Saga of U.S. Army and Marine Parachute and Glider Combat Troops During World War II* (New York: St. Martin's Press, 1972), 599.

The concept of the operation called for a division of reconnaissance platoon, along with approximately eighty Filipino guerillas, and two escaped internees, to cross Laguna de Bay in native bancas (small boats) two nights prior (February 21) to H hour. This force was to go ashore five miles east of Los Banos and silently infiltrate to their concealed positions, and be postured by the morning of the February 23. The reconnaissance platoon had three task to perform: (1). Occupy one hundred yards stretch of shoreline east of the town (mark the amtrac landing beach). (2). Get as close as they could to the camps towers and pillboxes, so they could shoot and kill the guards. (3). Secure a large open field immediately adjacent to the prison camp for use as a DZ (mark the DZ).

On the February 20, Company B, 511th PIR was disengaged and moved to Nicholas Field where nine C-47s of the 65th Troop Carrier Squadron, 433d Troop Carrier Group landed in preparation for the airborne operation. A 28-man battalion machine-gun

platoon, and a nine-man engineer squad augmented the company. At 0700, on February 23 Company B flew over the camp from the west, dropping from an altitude of 500' on the 1,500' by 3,200' DZ, 800 yards west of the interment camp. The Reconnaissance Platoon and guerillas acting as Pathfinders ignited the colored smoke canisters marked the DZ and landing beach; killed the sentries, destroyed the pillboxes, and set fire to the barracks. All jumpers landed on the DZ without injuries, assembled rapidly, and less than twenty minutes later the paratroopers were mopping up at the camp, set up a defense, and began organizing the internees.[61]

The planners agreed that the internees could not survive a long road march through enemy territory. In addition, a road march would be too time consuming and would give the Japanese time to organize an offensive. The demolished bridges and impassable roads between Los Banos and Calamba, established that evacuation by motor vehicle would also not be feasible. After considering all available alternatives it was determined that evacuating the internees by amphibious vehicles via the Laguna De Bay would be adopted. The 672nd Amphibian Tractor Battalion, with 54 landing vehicles, tracked (LVT[4] amtracs) would conduct the evacuation mission.

The amphibious forces landed exactly on schedule (H-hour) near San Antonio, north of the camp and west of Los Banos. Aboard the amtracs were the rest of 1/511th PIR plus a platoon (-) of Company C, 127th Engineer Battalion and two 75mm howitzers of Battery D, 457 PFAB. The amphibious force had the mission of establishing roadblocks, warding off any Japanese resistance from the Southeast, and encircling the internment camp to provide security while the internees where boarding the amtracs. After initial security was established the amtracs were to proceed to designated wards and

barracks in the camp to facilitate the loading of the prisoners for evacuation. The 1st Battalion, 188th GIR was designated as the support element, with the mission of attacking across the San Juan River at H-hour, link-up with the assaulting force and assist with the withdrawal of the internees.[62]

By 1700, February 23, 1945, the Los Banos raid was complete. A total of 2,147 internees were rescued (1,583 Americans, 323 British, 144 Canadians, 32 Australians, 22 Poles, 16 Italians, 10 Norwegians, and some French and Nicaraguan citizens) all rescued internees were being cared for at the New Bilibid prison, and the 1/188th GIR assumed its defensive posture in the San Juan River area; 243 Japanese were killed during the raid.[63]

Despite its phenomenal success and unbelievably low casualty rate, the Los Banos liberation was given very little attention and press coverage in the U.S. On the same day of the Los Banos liberation dramatic events unfolded on the blood soaked island of Iwo Jima. A team of U.S. Marines raised the American flag on Mount Suribachi after three days of continuous fighting. John Rosenthal, a civilian photographer of the Associated Press, happened to snap a picture of the flag raising. This picture became the most publicized photo in American newspapers during the entire war. Not only did the photo grasp the attention of the American public, but the fierce battle for Iwo Jima, which cost 20,538 American casualties.[64]

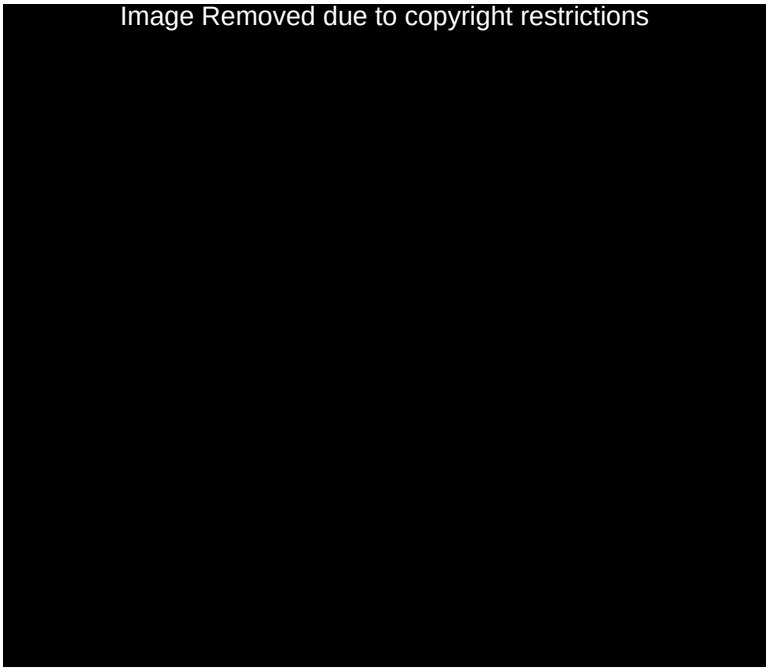

Figure 28. Airborne Operation at Los Banos

Source: Gordon L Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 74.

Airborne Operation in Camalaniugan, Luzon

The last airborne operation of World War II, was the airborne and glider assault executed by the 11th Airborne Division near Aparri, on northern Luzon, on June 23, 1945. It was intended as something of a *coup de grace* against a battered and confused Japanese Army in the Cagayan Valley of Luzon.

By the beginning of February, General Krueger's (commander of U.S. 6th Army) I Corps, had captured San Jose and seized control over the junction of Routes 3 and 11 near Rosario, and had secured the 6th Army base area flanks, and was providing protection to XIV Corps rear. General Krueger was preparing to launch yet another offensive, to strike into Northern Luzon against General Yamashita's "*Shobu Group*,"

(considered the strongest concentration of Japanese strength on Luzon) to end the Luzon Campaign. Sixth Army's plan had been first to contain the Shobu group and then destroy it. I Corps had attained excellent positions from which to strike north and was given the mission.

It was estimated that by mid-June the 37th Infantry Division attacking up the Cagayan Valley toward Aparri, could continue its fast drive north, and might be able to end the Luzon Campaign. On June 17, the 37th continued its advanced north along route 5 in the Cagayan Valley. It met some heavy resistance from the Japanese Yuguchi Force, which was trying to continue their move south along the route, in order to establish their defenses. Over a period of four days the 37th killed more than 600 Japanese, captured 285, and destroyed fifteen light tanks in a fifteen-mile stretch along the highway. By June 25, remnants of the Yuguchi Force retreated to the mountains of Sierra Madre, which separates Cagayan Valley and the east coast of Luzon.[65]

Although the 37th Infantry Division had defeated the Japanese force along highway 5 in its drive north, General Krueger, felt it was necessary to assist Major General Robert Beightler, commander 37th Infantry Division, in his continued drive up north. General Kruger's strategy was for the 11th Airborne Division to conduct an airborne assault near Appari on the northern tip of Luzon and then attacking south, could seal off the Cagayan Valley and the northern part of Luzon. Northern Luzon being, where Japanese General Yamashita had a large concentration of his 14th Army "Shobu Group." Sixth Army report to General MacArthur's Headquarters stated "in order to complete the annihilation of the enemy forces fleeing north, it was decided to make a vertical envelopment of airborne troop to close the trap and prevent the enemy from all possibility

of escaping from Aparri." On June 21, General Kruger ordered General Swing to dispatch a task force to support the 37th Infantry Division.[66]

The target date was to be June 25, 1945, but due to the rapid advance of the 37th the airborne operation was to be executed two days prior; on the 23rd. General Swing formed the 1,010-man Gypsy Task Force to accomplish the Aparri mission, and assigned Lieutenant Colonel Henry A. Burgess, executive officer for the 511th as commander of the Task Force. The Task Force consisted of a reinforced battalion of the 511th PIR, one battery of the 457th PFAB, a composite platoon of C company, 127th Engineers and supporting elements.[67]

The veteran 317th Troop Carrier Group would transport the paratroopers of the Gypsy Task Force. The 317th fleet consisted of fifty-four C-47s and thirteen C-46s (only combat jump where a C-46 was employed), and for their first combat use in the PTO, seven gliders (6 CG-4As and the larger CG-13). The seven gliders carried six jeeps, one trailer, machine guns, ammunition, radio, medical supplies, and nineteen men. In addition, the only artillery battery landed by glider in the PTO was a Field Artillery Parachute Battalion.[68]

The first aircraft (C-46) took off at 0600 from Lipa Airfield in Batangas Province, southern Luzon. All aircraft assembled in the air and went in a V of V's formation, with the seven gliders and their tug ships bringing up the rear of the column. Three hours later they arrived over the Camalaniugan Airfield, located three miles to the south of the town of Camalaniugan, and three miles north of Aparri. Bombers and fighters of the Fifth Air Force flew cover, and other planes laid smoke screens to the east and south of

Camalaniugan to conceal the drop from the Japanese forces operating in the mountains to the east.[69]

The 11th Airborne Division Pathfinder team had flown up to north Luzon two days earlier, made contact with Colonel Volckmann's Philippine's 11th Infantry (guerillas) on the west bank of the Cagayan River. The night before the drop, they had slipped across the river and infiltrating through the mountains, they moved to the Camalaniugan, DZ, and secured it. Precislely at 0900 on June 23, the Pathfinders set off a colored smoke pot to mark the DZ. The lead aircraft picked-up the signal, turned on his green light, and the first aircrafts of the main body dropped their jumpers on the DZ. All aircrafts dropped their jumpers precisely on the DZ, however, jump casualties were high due to 20-25 mile winds and rugged terrain, much of which was flooded rice paddies, Carabao wallows (swamp type domestic water buffalo found in the Philippines), and bomb craters hidden in thick kunai grass.[70]

Figure 29. Airborne Operation in Camalaniugan, Luzon

Source: Gerard M. Delvin, *Paratrooper! The Saga of U.S. Army and Marine Parachute and Glider Combat Troops During World War II* (New York: St. Martin's Press, 1972), 644.

The Task Force assembled in less than an hour, and Lieutenant Colonel Burgess led his Gypsy Task Force south along route 5. Encountering no Japanese resistance, the airborne force contacted Philippine guerillas on the ground, seized Aparri, and then turned southward to meet the advancing 37th Infantry Division. The Task Force made contact with the 37th on June 26, by this time the Luzon Campaign was virtually complete. The Gypsy Task Force assembled at Tuguegarao Airfield 55 miles south of Aparri and flew back to Lipa on July 1-2.[71]

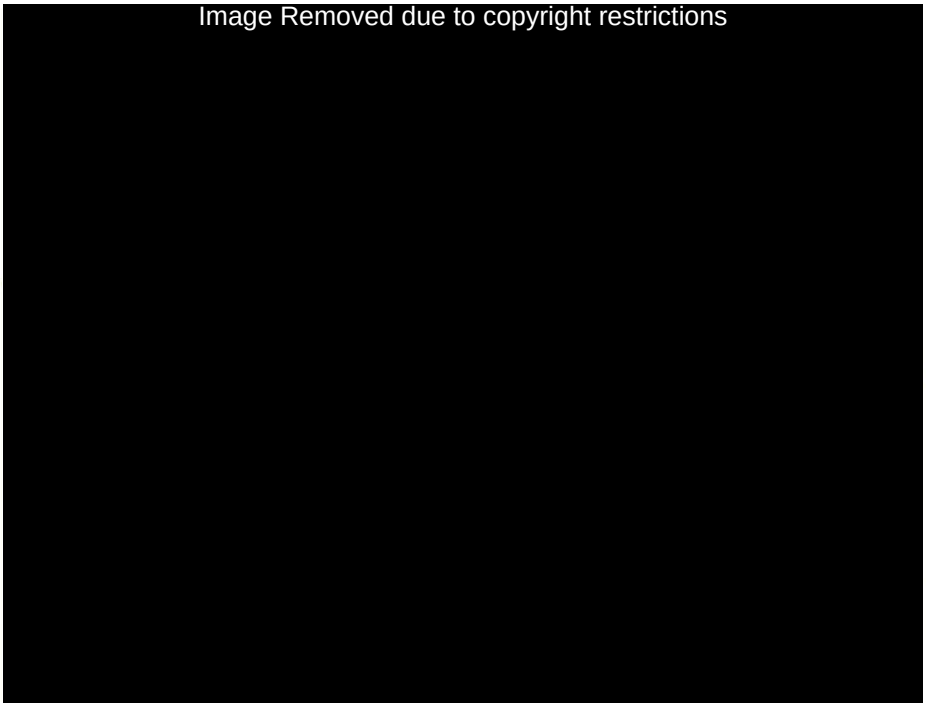

Figure 30. Airborne Operation in Camalaniugan, Luzon

Source: Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 88.

Pathfinders in the PTO: As seen throughout the seven combat parachute operations conducted in the PTO (southwest Pacific area), the employment of Pathfinders was limited in the jungles and islands of the Pacific. Nonetheless, the 511th PIR Pathfinders, of the 11th Airborne Division led the way for three airborne assaults that were conducted in the liberation for the Philippines. They did not conduct a parachute operation to mark the designated DZ; rather, they infiltrated over beaches and mountainous terrain to reach their objectives (Drop Zones) to provide navigational aid to the troop carriers. Needless to say, Pathfinders were used as an unconventional force in the PTO. Pathfinders' role in conducting a non-standard mission continued to

demonstrate their ability to rapidly adapt to ever-changing situations and the operating environment.

This historical account of the employment of Pathfinders in the Pacific Theater of Operations, continues to showcased their multi-faceted capabilities as a contributory force for mission success in this region of the world. One of the core pillars of our present national defense strategy is to rebalance our forces with emphasis on the Asia-Pacific region. As this regions share of global wealth is growing, enabling increased military capabilities. This is causing the regions security architecture to change rapidly, creating new challenges and opportunities for our national security and leadership.[72]

The U.S. expects to keep a presence in the Pacific Rim, and will expand its military cooperation, exchanges, and exercises with the countries throughout the region. Developing strong security ties with our nation-allied partners will help strengthen our ability to address regional security challenges. To meet these requirements the Army will align mission-tailored forces that are highly trained, skilled, and adaptable to remain engaged in the region.[73] Pathfinders specialized skill-set and multi-faceted capabilities would contribute to the overall maneuver commander's mission objectives. A closer look at their organizational force structure is advisable to see where they would best fit to support this mission.

After the atomic bomb was dropped over Hiroshima (August 6) and Nagasaki (August 9), Japan decided to surrender on August 10. At 0430 on August 11, Major General Swing received a message authorizing him to be prepared to move all his combat elements and equipment by air, on forty-eight hour notice. General MacArthur had selected the 11th Airborne Division to lead the Allied Forces in occupying Japan. Prior to

Japan's formal surrender onboard the USS Missouri on September 2, 1945; the 11th Airborne Division had the bulk of its forces and equipment on Okinawa. The 11th Airborne went on to participate in the occupation of Japan for several years, and was eventually inactivated at Fort Campbell, Kentucky in July of 1958.[74]

With the end of WWII in 1945 the U.S. began to draw down its military forces, and most of the Pathfinders units were disbanded. In 1947 the Army Air Forces officially became a separate branch of the Military, The United States Air Force. When the Air Force became a separate branch of service they claimed that only qualified Air Force personnel should guide Air Force aircraft. The remainder of the Pathfinders units were disbanded, and by law the reorganization of services transferred the Pathfinders functions to the U.S. Air Force's new Air Resupply and Communications Service, the predecessor to the now Combat Control Teams.[75]

The Korean War saw a limited use of Pathfinders. The organizational structure of the 187th Airborne Regimental Combat Team of the 11th Airborne Division included a Pathfinders team; however, during its two parachute assaults in 1950 near the villages of Sukchon and Sunchon in North Korea, the commander of the 187th RCT, Brigadier General Frank S. Bowen decided against using his Pathfinders team on the jump. In accordance to USAF Historical Study No. 71, General Bowen believed the use of Pathfinders in signaling for resupply drops would have been valuable, but if they would have jumped in to provide navigational aid and DZ markings prior to the main body's parachute assault, they would have been killed before they got into action.

The increasingly prolific helicopter drew a great deal of interest through the Army's Senior Leadership in the early 1960s, to the extent that the Army began to

experiment a new method of warfare in the form of the Air Mobile (Air Assault) concept. Five years later after the 11th airborne division was inactivated, and it was once again reactivated as the 11th Air Assault Division (Test) at Fort Benning, Georgia. During this two-year time numerous test and studies in developing the concept of helicopters, and their use in air mobility warfare were conducted. To include, the restoration of Pathfinders training by the commander of the Airborne-Army Aviation Department at Fort Benning, Lieutenant General John J. Tolson. However, the War Department would not accept Pathfinders into units until the formation of the 11th Air Assault Division (Test).[76]

Paratroopers that previously served in the 11th Airborne Division were organized as a cadre to give the 11th Air Assault Division (Test) a base of experience to draw from. The division organization grew slowly, and as the division continued to develop a small change to the divisional structure was added, a Pathfinder Detachment, the only such unit inexistence in the U.S. Army at the time. This unit was not widely publicized, and none of the organizational charts published by the Army reflected the unit. However, Pathfinders training was instituted, to include the development of new TTPs in support of Air Mobility operations.[77]

After a short two years, the 11th Air Assault Division (Test) would be deactivated and designated as the 1st Calvary Division, thus the only division to be equipped with a Pathfinder Detachment. Shortly after, the men of the 1st Calvary Division would ride into the Ia Drang Valley (Vietnam) on their UH-1 Iroquois (Huey) helicopters and attack the North Vietnamese head on.

[1]Samuel B. Griffith, *Sun Tzu: The Art of War* (New York: Oxford University Press, 1971), 128.

[2]Clark G. Lee, *Douglas MacArthur* (New York: Holt Publising, 1952), 133.

[3]Gordon L. Rottman, *U.S. Army Units in the Pacific Theater 1942-45* (Osprey Publishing, 2007), 4-8.

[4]Ibid.

[5]Ibid.

[6]Samuel Eliot Morison, *History of U.S. Naval Operations in World War II: The Rising Sun in the Pacific 1931-April 1942* (Boston, Little, Brown and Company, 1948), 3:150.

[7]Ibid., 170.

[8]Courtney Whitney, *MacArthur: His Rendezvous with History* (New York: Knopf Publishing, 1958), 16.

[9]Morison, 187.

[10]General Douglas MacArthur, *General MacArthur's Report* (Washington, DC: Government Printing Office, 1966), 22-27.

[11]Robert Ross Smith, *United States Army in World War II: The War in the Pacific, Triumph in the Philippines* (Washington, DC: Center of Military History, 1963), 3.

[12]Ibid., 4-10.

[13]Ibid.

[14]Ibid.

[15]Ibid.

[16]MG Innis P. Swift, *I Corps. History of the Luzon Campaign, Philippine Islands.* AAR, CARL Library, (Combined Arms Center, Fort. Leavenworth, KS: I Corps, 1942), 1-3.

[17]Ibid., 4.

[18]Ibid., 10.

[19]Ibid., 5.

[20]Ibid.

[21]Swift, 4-6.

[22]Ibid.

[23]Smith, 4.

[24]Clayton D. James, *The Years of MacArthur: Volume II, 1941-1945* (Boston: Houghton Mifflin, 1975), 324.

[25]David Horner, *General Vasey's War* (Carlton, Victoria: Melbourne University Press, 1992), 262-263.

[26]Australina Armed Forces, "*Operation "Outlook*". *Australian Armed Forces, Operations Order No. 5* (Moresby: Australian Armed Forces, 7th Australian Division, August 27, 1943), 21.

[27]Ibid.

[28]Delvin, 257-260.

[29]Rottman, 57-59.

[30]Brigadier General George M. Jones, Letter to Jerry Riseley, 8 March 1989.

[31]Rottman, 60-62.

[32]Ibid.

[33]Huston, 224-225.

[34]Ibid.

[35]Delvin, 554-555.

[36]Ibid., 556.

[37]Charles R. Anderson, *Leyte: The U.S. Army Campaigns of WWII* (Washington, DC: Center of Military History, 2003), 3-14.

[38]Ibid.

[39]Ibid.

[40]Ibid.

[41]Delvin, 554-564; Rottman, 63-65.

[42]Ibid.

[43]Ibid.

[44]E. M. Flanagan, *Airborne: A Combat Hisory of American Airborne Forces* (Navato, CA: Presidio Press, 2002), 313.

[45]Ibid., 314.

[46]L. A. Walsh, “Report of the Campaign on Luzon, Airborne Operations in the Pacific Ocean Areas,” After Action Reiew (United States Army Forces Pacific Ocean Areas, Pearl Harbor, Hawaii, April 13, 1945), 3; Flanagan, 314; Rottman, 68-73.

[47]Jeff Moran, *American Airborne Pathfinders in World War II* (Atglen, PA: Schiffer Publishing, 2003), 96; Flanagan, 315; Rottman, 68-73.

[48]Flanagan, 315-316.

[49]Flanagan, 313; Rottman, 68-73; Walsh, 4-8.

[50]Smith, 217.

[51]James Bush, William Cochrane, John Gingrich, David Gross, Craig Hackett, and Douglas Shultz, “Corregidor 1945” (Battle Book for A660, Command General and Staff College, 1983), 3-1; Flanagan, 319-320.

[52]Delvin, 579-581.

[53]Bush et al., 3-2.

[54]Ibid., 4-10.

[55]Ibid., 5-11.

[56]Bush et al., 3-11 - 3-13; Flanagan, 321-323; Huston, 227.

[57]Huston, 227.

[58]Delvin, 592.

[59]Delk, 2-4.

[60]Delk, 2-4; Delvin, 598-602.

[61]Rottman, 79.

[62]Rottman, 80; Huston, 229.

[63]Delk, 8.

[64]Delvin, 610.

[65]Lt. Gen.(Ret.) E. M. Flanagan, *The Angels: A History of the 11th Airborne Division* (Novato, CA: Presidio Press, 1989), 351.

[66]Ibid., 352.

[67]Flanagan, *Airborne*, 336.

[68]Huston, 230.

[69]Flanagan, *Airborne*, 337.

[70]Flanagan, *Airborne*, 337; Flanagan, *Angels*, 354; Huston, 320.

[71]Rottman, 87-89.

[72]Department of Defense, *The National Military Strategy of the United States of America 2011* (Washington, DC: Department of Defense, February 2011), 13.

[73]Ibid.

[74]Flanagan, *Airborne*, 340.

[75]Sir Robert J. Fogarty II, *Army Pathfinders "First In... Last Out"*, May 25, 2010, http://armypathfinders.comhistory.html (accessed September 19, 2013).

[76]Lieutenant General John Tolson, *Vietnam Studies: Airmobility 1961-1971* (Washington, DC: Government Printing Office, 1973), 50-62.

[77]Ibid.

CHAPTER 6

PATHFINDERS IN VIETNAM

> No event in American history is more misunderstood than the Vietnam War. It was misreported then, and it is misremembered now.
>
> — *Richard M. Nixon, 1985*

"First In- Last Out"! "On a bright and sweltering morning in the Republic of Vietnam a flight of UH-1 Iroquois (Huey) helicopters, heavy with infantryman, flew across the mountains and rice patties towards a small jungle clearing that would be used as a Landing Zone (LZ) in a combat assault. Tactical Air and artillery provided an overwhelming amount of firepower and prepped the LZ to eliminate the enemy from the area. A pass of combat Army Aviation, Cobra gunships, followed the prep, and a Huey helicopter with a Pathfinder Team on the skids came in to hover over the LZ at a height of 30 feet. In a matter of seconds the Pathfinders had rappelled down dangling ropes into the area, and scrambled into the cover of the trees on the edge of the clearing to establish a perimeter. Before the last Pathfinder touched the ground, bullets from the North Vietnamese AK-47's began ripping at the helicopter. The door gunner sprayed the surrounding trees with a wall of lead as the helicopter struggled to escape. As the enemy fire silenced, the Pathfinder team quickly cleared the small LZ, so one ship could land safely. Once this task was complete the Pathfinders ignited a smoke grenade in the clearing, and radio the flight lead of the helicopter armada that was to follow."[1]

The Pathfinder team leader immediately provided the flight lead with a Situational Report (SITREP) of the LZ, followed by guidance and control of its descent. "The Pathfinder was standing in the far end of the clearing, guiding the aircraft to the

precise point where the troops would disembark. The pilot descended his ship down to about a 12-inch hover, while the Soldiers disembarked and dashed towards the trees. The ship was in and out in a matter of seconds. Shortly after, the following ship had already begun its approach. The Pathfinder team continued to provide guidance and control until all ships had inserted the entire company of infantrymen, and they were ready to engage the enemy. At this point the Pathfinder team leader and his team loaded the last aircraft and headed to their Forward Operating Base (FOB) to prep for their next mission. A highly skilled Pathfinder had successful completed the coordination's necessary for the most critical moments of a combat assault, without a single casualty."[2] This was a typical day, and one of the many highly specialized missions conducted by Pathfinder's units in Vietnam; however, it was a long and arduous road to reach this feat.

With the end of WWII in 1945 the U.S. began to draw down its military forces, and the Pathfinder units were disbanded. When the Army Air Forces officially became the U.S. Air Force in 1947, they claimed that only qualified Air Force personnel should guide and provide control for Air Force aircraft, and by law the reorganization of services transferred the Pathfinder functions to the U.S. Air Force's new Air Resupply and Communications Service, the predecessor to the now Combat Control Teams.

It was not until the advent of the helicopter during the Korean War that the tactical employment of Army aircraft became a priority, and emphasis was placed on establishing air mobility as a new form of warfare. It was decided that Pathfinders would once again be needed by the Army to mark and operate DZ for paratroopers dropped from helicopters, and to establish and operate LZs and airstrips for Army helicopters and fixed wing aircraft.

Growth and Concept of Airmobility: "In the broadest sense, the airmobility concept envisages the use of aerial vehicles organic to the Army to assure the balance of mobility, firepower, intelligence, support and command and control."[3] The airmobility concept was not a complete product of Vietnam, so it probably would not be practical to say that all aspects of the theory were founded during this time. It certainly had its roots in both the airborne techniques of World War II, and the early doctrine developed for Army organic aviation for ground forces in that era.[4]

The first recorded use of a U.S helicopter in combat came in April 1944, in the Pacific Theater of Operations in WWII. A Sikorsky R-4 helicopter was used to rescue a downed pilot and three wounded soldiers in the jungles of Burma. Even at this experimental stage WWII visionaries began to speculate on the potential employment of helicopters as an aerial weapons platform. However, "the helicopter was still in its tactical swaddling clothes when World War II ended, and the problems of bringing up the infant up to maturity was left to the future."[5]

In 1947 the Army procured its first observation helicopters and their use gradually increased; nonetheless, North Korea's invasion of South Korea on June 25, 1950, was the catalyst of the employment of helicopters in combat. "On 21 September 1951, the idea of vertical envelopment by helicopter became a reality when a company of U.S. Marines was airlifted by helicopter to the summit of Hill 884 in Korea."[6]

The period from 1950 to 1954 Army aviation began to assume its present form, and emerge as a separate entity. In 1951, the U.S. Army helicopters began flying medical evacuation (MEDEVAC) mission. Between their rescues of downed airmen, isolated ground troops and flying ambulance mission; U.S. helicopters were credited with saving

tens of thousands of lives during the War. During the latter part of the conflict, larger more capable helicopters were introduced.[7] The Army and Marines would demonstrate the usefulness of vertical lift aircraft in the tactical movement of troops and supplies. This laid the foundation upon which the vast aviation structure of the Vietnam War was built.

Development of the helicopter and Korean War gave impetus to Army aviation. After the Korean War, during the mid-fifties, the growth for new tactics and technology, for the use of helicopters and Army aviation was given a sharp focus by Senior Army leaders and commanders. Major General James Gavin, the G-3, Department of the Army at the time wrote an article based on several staff studies that were conducted from the lessons learned on the employment of helicopters in Korea. The article was published on April 1954 in *Harpers Magazine*, titled "Cavalry, and I Don't Mean Horses." This article portrayed some of his experiences in WWII, as the commander of 505th Parachute Infantry Regiment and the 82nd Airborne Division.

General Gavin highlighted that the ability to perform the traditional cavalry functions of reconnaissance, screening, and blocking had vanished in modern armies. He attributed this to the Army's reliance on motor vehicles, which in rough terrain could easily be ambushed or taken in the flank by light infantry, as the North Koreans did to General Walton Walker's (commander 8th Army) forces during the Korean War, and what the Chinese did to General MacArthur when his forces approached the Manchurian border.

He went on to state that in WWII the marriage of the infantryman, parachute, and air transport was a combat development designed to perform the functions of cavalry, as agents of blocking or quickly seizing dominant terrain; though he believed that airborne

operations could be risky due to parachute drop errors, and that they lacked heavy weapons capable dealing with tanks or other heavy weapons.[8] In conclusion, he stated that the U.S. Army has the capacity to develop these means well within its grasp.[9]

General Gavin planted the seed, and tasked his Director of Doctrine and Combat Development General John Tolson, to design a new hypothetical cavalry organization around the potential of the helicopter. "These units were to perform the traditional mission of horse cavalry using a using a third dimension, and a ten-fold increase in speed."[10] In addition, General Tolson, also Director of the Airborne Department, was ordered to Fort Benning with instructions to develop a tactical doctrine for the combat employment of helicopters. As a result of this, he was able to broaden its charter, and change the name to the Airborne-Army Aviation Department. A new Airmobility Division was established as the focal point for doctrinal innovation.[11]

The results of these studies was the publication of the new Field Manual (FM) 57-35, *Army Transport Aviation-Combat Operations*, published in 1958. This FM provided guidance for commanders, staff officers and other personnel for planning and executing tactical operations supported by Army transport aircraft (fixed and rotary-wing). In addition, it also provided the basic information concerning the administrative and tactical planning and conduct of Army operations employing Army transport aircraft from battle group down to, and including small reconnaissance patrols.[12]

During this time of doctrinal innovation, it was determined that the Army should have its own Pathfinder capability for the terminal control of the Army's organic helicopters. In 1955, General Tolson received permission by the Continental Army Command to reactivate Army training in Pathfinder skills, and Lieutenant Colonel John

E. Stannard wrote the manual. However, fundamental to this decision was a determination of where Army Pathfinders would be assigned. Originally, Pathfinders were to be incorporated into each Infantry Battalion, but this solution was disapproved. Pathfinders again were almost nonexistent until the formation of the 11th Air Assault Division, where they were organized as part of the Aviation Group. As a result the 1st Cavalry (Airmobile) had organic, trained Pathfinders. Later as airmobility continued to grow in Vietnam, other units on many occasions found they needed Pathfinders and their specialized capabilities desperately.[13]

During the research for this study, the author was not able to locate the first published FM 57-38 "Pathfinder Operations" by Lieutenant Colonel Stannard. However, the FM 57-38 found at the Donavan research library at the U.S. Army Infantry School was dated October 21, 1963, with a footnote at the bottom noting this manual supersedes FM 57-38, March 1961. Nevertheless, Based on the author's research, FM 57-35, published in 1958 has a Pathfinder Appendix, which specifies the basic Pathfinder mission, the planning and executing of tactical operations, and conduct of operations for a Pathfinder team. To include the three basic types of operations: rotary wing, fixed wing, and aerial resupply.

It is the author's belief that during the development of the tactical doctrine, there was also an extensive study on the demands of how Army Pathfinder teams should be trained to support all combat units in operations involving the use of Army Transport aircraft. Based on previous lessons learned and experience it was also determined that under certain conditions of weather and terrain, or night operations, it would be

imperative to have specially trained personnel in the terminal guidance of aircraft, and in aerial delivery to operate in an objective area.

The basic tactics and techniques of operations employing Army transport aircraft and Pathfinder Operations published in the Field Manual would not only stand the test of time, but would be vindicated in the test of the 11th Air Assault Division, and in Vietnam.[14] With the new Field Manual, FM 57-35, *Army Transport Aviation-Combat Operations*, published in 1958, there were two other significant milestones that set forward a chain of events, which had a profound effect in Air mobility; the Rogers and Howze boards.

The *Rogers Board* (also know as the Army Aircraft Requirements Review Board) was established on January 15, 1960 by the direction of the Army Chief of Staff. Lieutenant General Gordon B. Rodgers, the Deputy Commanding General of the Continental Army Command chaired the board. His requirement was to consider the Army Aircraft Development Plan, and to review the aeronautical industry's proposals. This board was a two-fold event. "On February 1, 1960, forty-five companies submitted 119 designed concepts as their solutions to the problems posed by the Army Study Requiements."[15]

On February 29 to March 6, the Army Aircraft Plan was reviewed, and the roles and missions of Army aviation were discussed to include: projected Army funding, assessed combat surveillance requirements, and detailed procurement plans. The board made three recommendations: (1). Three types of aircraft should considered for further development- observation, surveillance and transport. (2). A policy needed to be established to replace each model of aircraft at least every ten years or sooner if

warranted by operational requirements or technological advances. (3). The Department of the Army and Continental Army Commander would prepare an in depth study to determine whether the concept of air fighting units was practical, and if an experimental unit need to be activated to test its feasibility.[16]

On March 19, 1960, the Army Chief of Staff approved the Rogers Board recommendations and assigned various staff agencies to carry out the recommendations. The board provided essential aviation guidance for development, procurement and personnel planning. The board findings had profound effects on the future concepts of Army Aviation.

While the first Army aviation units were deploying to Vietnam, settling in-country and making their first tentative test in combat there were numerous competing events that would have profound influence on the future of airmobility. One of these events was the increase and reorganization of Army divisions. In addition the Army discovered that the requests for aircraft outpaced current procurement and deployment of aviation units.[17]

Dissatisfied with the Army's aviation program, Secretary of Defense Robert McNamara in late 1961 directed the Army to prepare a study specifying its aviation requirements. Disappointed with the results of the study, McNamara directed the Secretary of the Army in a memorandum on April 19 to conduct a reexamination of the role of Army aviation, aircraft requirements and the implementation of the air assault concept. On April 25, the Continental Army Command appointed General Hamilton H. Howze, commander of the Strategic Army Corps and of the XVIII Airborne Corps and

Fort Bragg, as president of the *Army Tactical Mobility Requirements Board (or Howze Board)* to develop and recommend courses of action for Air Mobility Operations.

The board studied, analyzed, and tested the problems of the organizational and operational concepts of airmobility. Evaluations and findings of field tests, war games, operations research, and visits to overseas combat theaters provided support for the boards final report. Four different scenarios were used to evaluate air assault operations against the Warsaw Pact, Chinese communists, an insurgency and other threats emerging from Latin America or Africa. With these scenarios, the Howze Board foresaw that offensive operations would be the dominant type of operation performed.[18] Results of these test concluded that Army aircraft would enhance combat effectiveness in both conventional and counter-guerrilla warfare, and the Army could accomplish all if its tasks by smaller forces in shorter campaigns.[19]

The board reinforced and established the fundamental principals of the Airmobility doctrine and its force structure. The board's main recommendation was the establishment of air assault divisions and air cavalry combat brigades, with an antitank capability. It was recommended that five air assault divisions would operate alongside eleven infantry and armored divisions, and three air cavalry and five transport brigades would be added to the force structure. It also added that aviation assets would be increased in all units to improve their logistic support.[20]

The board also highlighted all aspects of the division would be enhanced to include: tactical mobility rapidly, reconnaissance, ability to ambush, fire support, and direct firepower capability. The board recommended a continuing program of field test be conducted, before a complete overhaul of the Army's force structure was implemented.

The result was the activation of the 11th Air Assault Division (Test) and its associated 10th Air Transport Brigade at Fort Benning, Georgia in 1962, under the Command of Major General Harry W.O. Kinnard.[21]

Based on the findings of the Howze board, the Army on January 1963 published the plan for organizational, training and testing of Air Mobile units.[22] The 11th Air Assault Division (Test) and the 10th Air Transport Brigade were given the task to conduct the largest testing and evaluation of a divisional force structure since the Army tested its new triangular division concept in WWII.[23] General Wheeler, the Army Chief of Staff, instructed the 11th Air Assault's(Test) new commander, Major General Harry W.O. Kinnard with the following: "You are going to run the organization. I want you to find out how far and fast the Army can go, and should go in the direction of airmobility." It was an innovative approach to Army combat development.[24] Over the course of two years, the 11th Air Assault Division tested the ideas and concepts of airmobility.

The test were divided into a series of three, phased test. The intent of each phase was to work the Techniques, Procedures and concepts beginning from moving one infantry battalion to moving an entire division. Building from lessons learned from the preceding phase, and with the intent of highlighting the concept of using helicopters as an Airmobilty platform; Phase I, was conducted from February to September of 1963, with one air assault infantry battalion. Phase II, was conducted from November 1963 to August 1964, started to build up to brigade size element in July of 1963, and involved a brigade. Phase III, was conducted in January 1964 to July 1965, and it was a division size test. It was intended that a division would be fully combat ready.[25]

The culminating exercise, “Air Assault II” involved some 35,000 personnel and covered a large spectrum of terrain from Alabama, Georgia and through the Carolinas. During a period of four weeks the test units maneuvered through its area of operations in offensive, defensive and retrograde movements. All operations were undertaken in a controlled scenario, based on field tests. Specified goals had to be accomplished within established time limits.[26]

In addition to the series of three, phased test, there was continuous and intentional cross-communication of information, equipment, and ideas between what was going on in Vietnam, and what was going on in Fort Benning; include the formation of six airmobile companies that were sent to Vietnam during the testing period.[27]

The 11th Air Assault division continued to demonstrate the usefulness of integrating ground and aviation forces throughout their testing period. To include infusing actual operational lessons learned from Vietnam. The concept of Aerial Rocket Artillery (ARA) was a new technique developed and perfected based on lessons learned from actual combat operations from Vietnam and incorporated into the 11th Air Assault Division tactics. Delivering far superior direct fire support to airmobile operations than those delivered by the Air Force’s close air support CAS missions was also a derived.[28]

On December 1, 1964 after twenty-one months of intensive training and testing conducted by thousands of highly specialized personnel, to include joint testing and training with the Air Force an interim final report was submitted. It was now up to the Office of the Secretary of Defense to determine the future of the Airmoblity Warfare.

In March of 1965 the tentative decision was made to convert the 11th Air Assault Division (Test) to a full-fledged member of the force structure. On July 1, 1956, the 1st

Calvary Division (Airmobile) was official activated under the "General Order 185, Headquarters Third U.S. Army," and constituted elements of the 11th Air Assault Division (Test) and the 2nd Infantry Division.[29] The newly formed division had 90 days to begin deploying to Vietnam, and "changed the face of the War."[30]

Actual documentation seems hard to find, nevertheless, while the 11th Air Assault Division (Test) was conducting its series of three, phased test it is the author's conviction, that side test were additionally conducted employing Pathfinders to train with the Air transport to provide navigational aid, terminal guidance, and aerial delivery; including, the organization and control of landing and pickup zones. Three reasons lead the author to this conclusion. (1). The reactivation of Pathfinder training and opening of Pathfinder school in 1955 at Fort. Benning by the direction of General Tolson. (2). The Field Manual 57-35 "Airmobile Operations" was used as base doctrine to conduct the test and evaluations. This FM outlined the duties, mission, the preliminary operational concepts, and need for Pathfinders teams for the terminal guidance of Army aircraft. (3). The 1st Cavalry Division formed the 11th Pathfinder Company (Provisional) prior to its deployment to Vietnam, to serve under the 11th Aviation group. Pathfinder capabilities, limitations, planning concepts and their ability of establishing Helicopter Landing Zones and Drop Zones needed to be tested, evaluated, and trained prior to the formation of the Pathfinder Company. The 1st Cavalry Division was the only unit to have organic, trained Pathfinders.

Battle of the Ia Drang Valley

> There are only three principals of warfare: Audacity, Audacity, and Audacity!
> — General George Patton

> You cannot choose your battlefield, God does that for you; But you can plant a standard Where a standard never flew.[31]

Situation: The history of Vietnam can be traced to 208 BC when the Trieu Da a Chienese general, established a stronghold in the Northern Mountains and proclaimed himself emperor of 'Nam Viet', this was later absorbed into the Chinese empire. The legacy and history of Vietnam is long, complex and somewhat difficult to understand. For the purpose of this study a brief overview will be presented to gain a basic understanding as to how the U.S. entered the Vietnam War.

Vietnam had been fighting for decades prior to the beginning of the Vietnam War, and had been under French colonial rule for over six decades before the Japanese invaded portions of the country in 1940 during WWII. In 1941 Vietnam had two foreign powers occupying the country, the French and Japanese.[32]

The period of 1954-1975 is most commonly known as the Second Indochina War. It began after a long conflict between France and Vietnam. In July of 1954, after over 60 years of colonial rule, a defeated France was forced to leave Vietnam. The communist revolutionary leader Ho Chi Minh, established the 'Viet Minh' a group of guerrillas whose goal was to get rid of both the French and Japanese occupiers. In their campaign to take back their country, the Viet Minh began to gain populace support for their cause in northern Vietnam. This culminated with the Viet Minh establishing and independent new government, the Democratic Republic of Vietnam on September 2, 1945. This independent struggle led to the rise of the Viet Minh into a formidable army, which was well equipped with Soviet and Chinese weapons. The Viet Minh Army would lead a fierce campaign against the elite of the French Army, known as the First Indochina War. The Viet Minh Forces in 1954, under the command of General Vo Nguyen Giap

overpowered the French forces at the remote mountain outpost of Dien Bien Phu in the northwest corner of Vietnam. A defeated France was forced to leave Vietnam. As the two sides came together at the peace conference in Geneva, Switzerland in 1954, international events were already shaping the future mayhem, which was to be known as the Second Indochina War.[33]

The Geneva Peace Accords was signed by France and Vietnam in the summer of 1954, this agreement stipulated a cease-fire for the peaceful withdraw of French forces and the temporary division of Vietnam along the 17th parallel. Outside pressure from the Soviet Union and The Republic of China, Vietnamese delegates agreed to a temporary partition of the country. These accords represented the worst of all possible futures for war-torn Vietnam.

The country was divided into communist North Vietnam and non-communist South Vietnam. In addition, a general democratic election was to be held in 1956 that would reunite the country under one government. The U.S. did not agree with the Geneva Accords, because it was believed that the Communist Party of Vietnam would be granted too much power; and could win the elections. However, the U.S. supported the creation of counter-revolutionary alternative south of the 17th Parallel. This nation-building effort was established through a series of multilateral agreements that created the Southeast Asia Treaty Organization (SEATO).[34]

With the support of the U.S. the elections ended up being held only in non-communist South Vietnam rather than countrywide. The new President elect, NGO Dinh Diem proved to be horrible and alienated many of his constituents. Many of these citizens were communist sympathizers, and established the National Liberation Front (NLF), also

known as the Viet Cong (Viet: Vietnamese, Cong: Communist), in 1960 to use guerrilla warfare against the South Vietnamese. (now called Unified Land Operations)

The dates associated with the Vietnam War are commonly identified as 1959-1975. This period begins with North Vietnam's first guerilla attacks against the south and ends with the fall of Saigon. The War started out rather benignly with adhering to the SEATO agreements. The U.S. in 1957 began by sending the first Special Forces advisors to assist in training the South Vietnamese Army. Their objective was to teach how to resist aggression from the North and preserve their sovereignty as a democratic nation. However, as the potential scale of the Viet Cong threat became increasingly evident more Special Forces teams were sent to Vietnam. These teams established base camps around South Vietnam not only to aid the South Vietnamese Army in counter guerilla operation, but also to help tribesmen settle in their villages, build homes, and providing instruction on useful trades (nation building).[35]

In January of 1963 the Special Forces camp at Plei Mrong located on the highland plateau of Kontun, was infiltrated and assaulted by the Viet Cong. This attack led to a series of attacks by the Viet Cong, and on August 2, 1964, the North Vietnamese Navy units fired directly on two U.S. Navy ships in the Gulf of Tonkin (know as the Gulf of Tonkin incident). This triggered a series of counter attacks by the U.S. military forces on North Vietnam, eventually concluding with the Gulf of Tonkin resolution, giving President Lyndon Johnson the authority to escalate U.S. Involvement in Vietnam, and ordering the first U.S ground troops to Vietnam in March of 1965.[36]

In late October of 1965 intelligence revealed that two North Vietnamese Army (NVA) regiments had come from the North and linked with a Viet Cong regiment to form

a Division, and conduct major offensive operations against the South Vietnamese Army. Continuous attacks to the southwest threatened Pleiku, and it was the first step to cut South Vietnam in half. The location was an ideal area to test their newly developed air mobility tactics. It was also was a test for the NVA to operate with divisions under a higher command. Stakes were high on both sides. The employment of the 1st Cavalry Division during the Battle of Ia Drang Valley would mark the prelude for the most famous divisional airmobile retaliation in history, and "would drive a major shift in U.S. strategy from a Special Forces mission to conventional operations."[37]

Mission: General Westmoreland, commander Military Assistant Command Vietnam (MACV) believed that the Regimental-size NVA formations were a threat to South Vietnams entire region. On October 19, 1965 a series of battles began, and on that night NVA forces attacked the Special Forces camp at Plei Me, near Cambodia and quickly overran the camp. The intensity of the battles following the attack at Plei Me verified that the NVA could contest other critical areas, storm Pleiku, or even continue to divide the country across the middle. After 1st Cavalry Division elements forestalled the NVA drive, and enemy elements retreated. The division's relief force reached Plei Me under an umbrella of shellfire on October 25, breaking the Siege.[38] However, General Westmoreland wanted the NVA decisively defeated. He ordered that the division "must now do more than merely contain the enemy; he must sought out aggressively and destroyed."[39]

General Kinnard, commander 1st Cavalry Division was convinced that a combination of his division's resources with air assault tactics, would be able to dominate the large area of operations and restricted terrain of approximately 2, 500 square

kilometers between Plei Me and Cambodia where the NVA was operating. While it was considered a conventional force would not be ideal in seeking and closing in on the enemy in this large unfamiliar wilderness, the area was perfect for long-range airmobilty cavalry. On October 26, Colonel Elvy Roberts, commander 1st Brigade (Airborne), arrived to the Division Headquarters for a full briefing.[40]

On October 27, Colonel Roberts brigade was spread out across the Pleiku province to find, fix and destroy the 32nd and 33rd NVA Regiments. These regiments were retreating back to the Cambodian border; the regiments could not reach their caches of supplies to return back to their operating bases. Between, October 30 - November 1st Battalion elements of the 1st Brigade started to find and attack the enemy in small firefights. Eventually all four battalions of the 1st Brigade converged and on November 3, defeated the enemy elements along the Cambodian border. This battle is credited with the first night combat assault landing and the first night use of aerial artillery.[41]

By November 9, 1st Brigade had conducted a thorough sweep of the area and the region of west of Plei Me was considered clear of enemy troops; however, the 32nd NVA regiment had not been encountered and where suspected to be east of Plei Me. 3rd Brigade, 1st Cavalry took over the sector, and began conducting operations in the area just south and southeast of Plei Me. On November 10, Colonel Brown began to press the search vigorously conducting patrols in the area down to squad size elements. When three days of patrolling turned up very few enemy forces, Colonel Brown was ordered to search westward towards the Cambodian border. Upon this change of mission Colonel Brown focused his efforts over a the densely wooded area south of the Ia Drang River at the base of the Chu Pong massif, a rugged mountain mass straddling the South

Vietnamese-Cambodian border. The sector along the Ia Drang River had been a bastion of the Viet Minh during their conflicts with the French. A thorough sweep of the sector was conducted.[42]

Intelligence had reported a probable a probable major base for at least one NVA regiment in the Ia Drang River sector, it was the G-2 (Intelligence Officer) analysis the NVA could be using this base as a temporary staging base camp to continue their operations of infiltrating into South Vietnam. However, no friendly troops had operated in this area for some time.

Thirteen kilometers westward on the northern bank of the Ia Drang the 32nd Regiment of the NAV still a formidable force was operating along this sector of the river. It was reinforced by the 66th Regiment who were positioned along the banks of the Ia Drang River, with the mission of conducting a second attack on the Plei Me Special Forces camp, and a few kilometers west of the 33rd NAV regiment on the Ho Chi Minh trail I Cambodia, en route the staging area.[43]

Meanwhile, 3rd Brigade continue its operations along the River, Colonel Brown devised a plan on November 13, and assigned 1st Battalion, 7th Cavalry, to a new area of operations southwest of Plei Me. The battalion was to conduct search and destroy operations at the base of the Chu Pong peak (Hill 542). At approximately 1700 on the 13th of November Colonel Brown told Lieutenant Colonel Harold G. Moore, commander 1st Battalion, 7th Cavalry to execute an airmobile assault into the Ia Drang valley north of the Chu Pong peak early the next morning, and coduct search and destroy operations in the area through November 15th.[44]

After Lieutenant Colonel Moore brief the concept of operation to Colonel Brown and he was satisfied, and agreed on the tactical plan at 1017 on November 14 preparatory fires from the artillery began to prep the objective (LZ X-ray), and within minutes the men of Company B, 1/7 Cavalry, along with Lieutenant Colonel Moore landed on LZ X-ray; "thus began an epic fight."[45]

Air Assault Plan: Lieutenant Colonel Moore reviewing and analyzing the intelligence summaries (INTSUM), from his G-2, visualized the conditions and circumstances of his operating environment. He immediately conceived a best approach to achieve and accomplish his mission. He was confident that a large amount of NVA forces were conducting operations within the sector of his assigned mission at the base of the Chu Pong peak (Hill 542). Colonel Moore reviewed his initial plan and concluded, that instead of establishing multiple company size LZs he would establish one battalion size LZ. The intent was for the initial assault company to rapidly consolidate, thus expediting the entire battalion landing. He would then have his whole force available if he encountered heavy enemy resistance upon landing.[46]

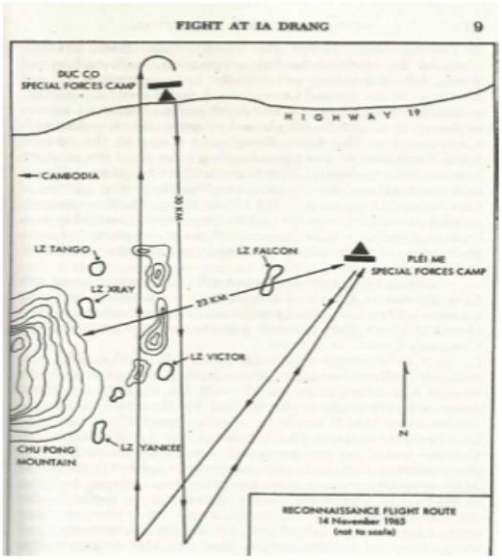

Figure 31. Reconnaissance Flight conducted prior to executing the Battle of Ia Drang Valley

Source: John A. Cash, *"Fight at Ia Drang," In Seven Firefights in Vietnam* (Washington, DC: Office of the Chief of Military History, 1970), 9.

After conducting an aerial reconnaissance flight of the area he concluded, that there were three possible landing zones Colonel Moore could of used in order to Air Assault his forces into the base if Chu Pong peak (Tango, X-Ray, and Yankee). Shortly after a brigade fragmentary order (FRAGO) was issued specifying a close by area (codenamed Lime) as the primary zone of interest. With this updated information, and the proximity of area Lime there were two large fields were 8-10 UH-1Ds (Hueys) could land, one was full of jagged tree stumps, and the other a grassy clearing; Colonel Moore chose LZ X-ray, as the best potential position for the initial assault. It was the largest of the three, and with the less restrictive terrain. In addition, a platoon and a half could be inserted on the initial assault, the most critical moment of the air assault, there was no signs of enemy activity detected, and two artillery batteries (from 1st Battalion, 21st

Artillery) could be positioned on LZ Falcon (also at a close proximity of LZ X-ray) to provide initial preparatory fires and indirect fire support for the battalion.[47] What Colonel Moore did not know was that he was going to land right in the middle of three battalions of the 66th NVA regiment; a total of about sixteen hundred men. Who had a strong hold, a strong mobile command group, and were prepared and waiting for his arrival on LZ-X-ray.[48]

At 1017 preparatory fires from the 1/21 Field Artillery began their preparatory fires precisely, and were timed with the lead elements of the assault company, scheduled to touchdown at 1030 hrs on LZ X-ray for the Air Assault. In addition, in order to maintain a heavy volume of fire against the target area, aerial rocket artillery gunships, worked X-ray over for 30 seconds, expending half their loads, then went into orbit to be on call. The lift battalion escort gunships then took up the fire, rockets and machine guns blazing, immediately ahead of the troop transports Hueys.[49]

At 1048 on November 14, 1965, Captain John Herren's Company B, 1/7 Cavalry Regiment, along with Lieutenant Colonel Moore, in two groups of four helicopters each, with each group in a heavy-left formation, landed on LZ X-ray. In less than 10 seconds the helicopters had disembarked their Soldiers, and lifted off to allow the next two groups of four to land on the LZ. Within minutes the helicopters were returning to Plei Mei to loading area to pick-up the rest of the advance contingent of Company B and Company A. Lifts of helicopter's continued to disembark Soldiers of the battalion on the LZ, and within ninety minutes the battalion had over 300 men on the ground at LZ X-ray.[50]

The first contact with the enemy began at approximately 1215 Company B began to be engaged in a fire fight of moderate intensity, and by 1330, Company B reported that

they had been heavily attacked by at least two companies, and their 2nd platoon was in danger of being surrounded and cut off by a numerically superior force. Fighting became more intense with all elements of the battalion prior to night fall Colonel Moore decided to pull back A and B Companies to establish a tight defensive perimeter for the night. After white phosphorus fired by artillery was used to cover the withdrawal, it also seemed to disorganize the enemy more than smoke. It caused a temporary lull in the enemy firing. By 1900, the organization of the perimeter was completed, and units were tying in for the night. In addition defensive artillery and mortars fires were being registered.[51]

A major problem that had developed throughout the day was the care and evacuation of the wounded. At approximately 1400 the battalion surgeon, medical supplies and medics arrived under heavy fire, and began to treat the wounded in the command post area.[52] However, Colonel Moore did not call in Medical Evacuation (MEDEVAC) helicopters to frequent due to the LZ being under heavy fire for most of the afternoon. Due to the high intensity of the conflict and the number of wounded, at approximately 1330 Colonel Moore selected an area in the northeastern portion of X-Ray, where a small two ship LZ could be established, as a supply and evacuation link to the rear. Additionally, he requested that every helicopter coming in to bring troops, supplies and evacuate the wounded would call him for landing instructions.[53] This system worked well, numerous lifts were brought in from specific directions and prescribed altitudes to touchdown on a specific area on the LZ and take off on a prescribed heading.[54]

By 1350, it had become apparent that the battalion needed a day and night landing capability. Colonel Moore called Company A, 229th Helicopter Battalion with a request for Pathfinders to assist him on the ground. The Battalion had anticipated the requirement, and a Pathfinder team arrived shortly thereafter. The Pathfinder team immediately began their operations in support of Colonel Moore and his Battalion. Upon arrival the Pathfinders team cleared a fairly safe two ship LZ with engineer demolitions, and set-up the necessary lights for night landings. This remarkable feat was accomplished under enemy observation and fire.[55]

At 1915, the Pathfinder team was able to establish air traffic control and provide night navigational aid (establishing small shielded landing lights) to guide two ships into the LZ that was carrying resupply ammunition, rations, water, and medical supplies, even though there was a curtain of smoke over the LZ and entire area of operations. Resupply operations continued through the night; they performed remarkably.

The Pathfinders team continued their operations for the next two-days. They positioned and assembled the navigational aids; they selected, designated, and prepared the landing points for each helicopter of the lift to include the controlling the landings and takeoffs.

Two ships that were guided in that did not make it out. One received enemy fire in the engine and landed in the northern portion of the LZ. The other ship clipped a few treetops with the main rotor on landing on the LZ and had to be left. There was minimal damage to both aircrafts. However, both aircraft were slung out by CH-47 Chinooks.[56]

Even though research conducted by the author does not specify that the Pathfinder team conducted the sling load operation for the extraction of these two aircraft; the author

concludes that the Pathfinder team was an integral part of selecting, preparing, and controlling the Pick-up Zone (PZ). To include: providing advice, technical help, supervision and inspection on the rigging of load, and providing ground guidance and air traffic control during the slingload.

The heavy fire fight continued for the next two days with all the 1/7th Cavalry units, and its reinforcement forces, Company B, 2/7th Cavalry and 3rd Platoon, Company A, 2/7th Cavalry. At approximately 0930, the lead forces of the remainder of 2/7th Cavalry began arriving at X-ray. At 1040, Colonel Moore received instructions from Colonel Brown to prepare his battalion, along with his reinforcement elements to move by UH-1D to Falcon LZ, then to Camp Holloway at Pleiku for two days of rest and reorganization. In addition he was ordered to relieve his elements on line with elements of 2/7th Cavalry and the 2/5th Cavalry. However, prior to the extraction Colonel Moore had Company B, 2/7th conduct one final sweep across their front out to 150 meters, this was the scene of extremely heavy fighting, and he wanted the battlefield thoroughly policed. All units being extracted by UH-1D were covered by artillery and Tactical Air being delivered around X-Ray, on the flight routes in and out, and on the slopes of the mountain. By 1830 all elements had left LZ Falcon by air and closed into Camp Holloway, vicinity of Pleiku.[57]

At the end of the battle at LZ X-Ray, the 1st Battalion, 7th Cavalry with attached units had suffered 79 Killed and 121 wounded with none missing. The 66th NVA Regiment had suffered killed, body count-634, killed, wounded (estimated)-1215, and captured, evacuated-6.[58]

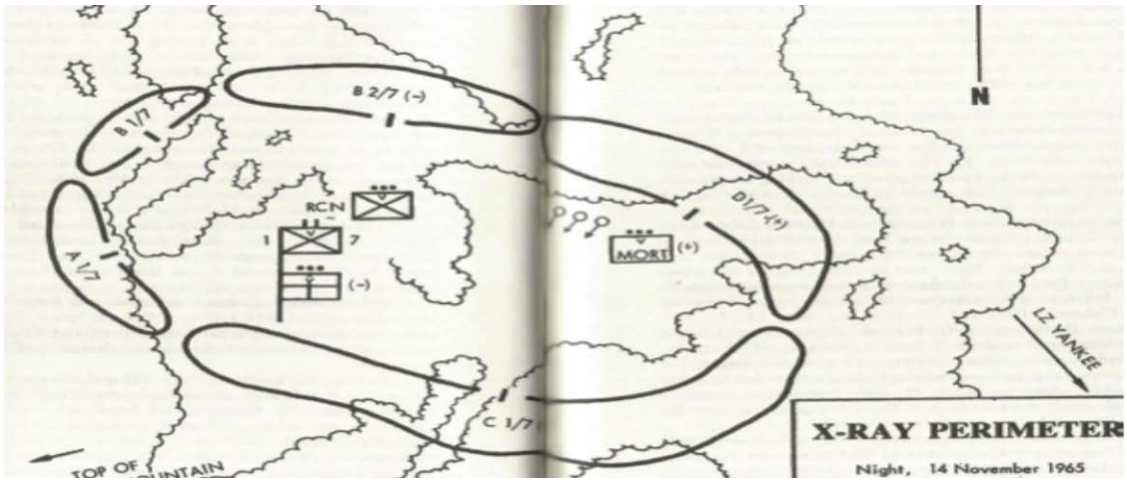

Figure 32. Battle of Ia Drang Valley (LZ X-RAY)

Source: John A. Cash, *"Fight at Ia Drang," In Seven Firefights in Vietnam* (Washington, DC: Office of the Chief of Military History, 1970), 34-35.

Pathfinders in Airmobility: The U.S. Army almost lost its Pathfinder capability after they were disbanded from airborne units in WWII, and their limited use in the Korean War. Nevertheless, the advent of the helicopter, and the Army's experimentation in the 1960s with a new method of warfare in the form of Air Mobile (Air Assault) concept the Pathfinders role was brought back to light again.

The Pathfinders continued to evolve with the activation of the 11th Air Assault Division (Test), and during the Vietnam War, with the 1st Cavalry and the 101st Airborne Divisions. They developed new capabilities and qualification requirements, which enriched their ability to rapidly adapt to a new type of warfare; to include the unforeseen changes and challenges in the complex operating environment of Vietnam. They conducted both air assault and airborne missions in support of airmobility warfare. Their performance was incalculable.

Even though, Pathfinders were not highly publicized, and none of the organizational charts published by the Army reflected a Pathfinder unit; numerous studies, test and training were instituted, to include the development of new TTPs and operational concepts for their new role in support of airmobile techniques.

They developed a variety of concepts, with three principal missions: establishing and operating a helicopter landing zone (HLZ), operating a fixed-wing landing zone, and establishing and operating drop zones (DZ); with a primary emphasis on air traffic control, particularly for HLZ.

Pathfinders could be delivered by any of a variety of ground, sea, or air transportation (Airborne or Air Assault) means. Provide navigational assistance to Army aircraft

through operations of air-landing or air-delivery facilities on or over enemy-dominate or enemy-threatened areas.[59] Some of the basic functions Pathfinders were able to perform were to:

1. Advice and assist commanders on the selection and control of pick-up and landing zones.

2. Select, establish and operate drop zones for parachute assaults.

3. Operate resupply drop zones.

4. Perform Air traffic control at the pick-up zone and landing zones during combat assault operations.

5. Provide Air traffic control and rigging assistance at forward logistical and fire support bases.

6. Provide guidance of aircraft through artillery and air strikes zones.

7. Provide instruct and supervision on rigging techniques for both internal and external loads, for infantry and artillery personnel.

8. Provide terminal control and navigational aid for Army aircraft.

These newly developed concepts made the U.S. Army Pathfinders an indispensable force multiplier in support of airmobile techniques and warfare. The inherent value of the Pathfinders lies in the fact that their employment is limited only by the commander's imagination and ingenuity.

Pathfinder's performance in Vietnam was absolutely spectacular. They conducted 12 combat parachute jumps and countless air assault operations in support of combat operations, and the newly established airmobility concept of war. In each case, parachuting in or by air assaulting (rappelling or touchdown) in they infiltrated in small elements into non-secure areas (to achieve tactical surprise) with the purpose of selecting or clearing an LZ, and providing navigational assistance and terminal guidance to Army aircraft during air assault operations.

During the testing of the Air Assault concept from 1963-1965, the 11th Air Assault Division Pathfinders developed the TTPs and operational concepts that have stood the test of time, and are still used in today's Pathfinder doctrine. Pathfinder's continue to serve a vital role in today's Army, providing commanders with numerous options and flexibility on employing air assets. There performance today is attributed to the experience, hard work, and knowledge gained through approximately 45 years of pathfinder operations since the Vietnam War.

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CHAPTER 7

PATHFINDERS IN AFGANISTAN

> From the beginning, the War on Terror has been both a battle of arms and a battle of ideas – a fight against the terrorists and against their murderous ideology. In the short run, the fight involves using military force and other instruments of national power to kill or capture the terrorists, deny them safe haven or control of any nation; prevent them from gaining access to WMD; and cut off their sources of support. In the long run, winning the war on terror means winning the battle of ideas, for it is ideas that can turn the disenchanted into murderers willing to kill innocent victims.
>
> — President George W. Bush

The Afghanistan Campaign

The Army's Swiss army knife

It is two o'clock in the morning in the U.S.; the call goes out over the radio in a matter of minutes paramedics are in route to a multiple car accident. They arrive at the scene and there are numerous injured victims; to include a man trapped inside his car. The paramedics quickly begin treating the injured and use specialized skills and power tools to extract the victim out of his car. In Afghanistan, it is the U.S Army Pathfinders, a highly specialize force who execute critical missions. Like their civilian counterparts, Pathfinders are experts in rescuing victims from down aircraft. Their tools are the same, but the difference is they are operating in a hostile environment.[1]

In any given day this multi-talented force is asked to conduct missions well outside the spectrum of conventional forces. Whether it be setting impromptu runways in a hostile environment, establishing drop zones recovering down aircraft, providing navigational aid, terminal guidance for aircraft, sling-load operations, or clearing hot landing zones so helicopters can touchdown, this force provides the critical support

division commanders need to accomplish their objectives.[2] "They are silent professionals that conduct rescue missions in dire conditions."[3]

Back at their home stations, and prior to their deployments Pathfinders are at work training and honing their multi-faceted skills. On this particular day, September 26, 2012 in a Fort Drum training area Pathfinders from Company F, 2-10 Aviation Regiment, Task Force Knighthawk, 10th Combat Aviation Brigade did just that; they conducted a simulated extraction of a downed aircraft.

They received the call that an aircraft had just been shot down. Staged out of the airfield with their equipment, two squads of Pathfinderss loaded their MEDEVAC helicopters, and within minutes they were in route to the scene. Upon arriving one squad-established security around the landing site, and the other made their way to the downed aircraft. Much like their civilian counterparts they assessed the situation, extract the downed pilot from the aircraft, and immediately the medics began treating the pilots. It would not be long before these Pathfinders would find themselves in Afghanistan performing the same duties, but in a hostile environment.[4]

Situation

The invasion of Afghanistan after the September 11th attacks was preceded by approximately thirty-five years of political crisis. This crisis, for first time since the "Great Game," (the geopolitical struggle between the British and the Russian empires) places Afghanistan in the center of the international stage.[5] The origin of the Great Game began in the 1700s, when Afghanistan was just forming as a nation, and two of the world's major powers at the time were advancing towards it from opposite directions. The British held the Indian subcontinent, while the Russians held the Central Asian lands

to the North.[6] Their influence overlapped in Afghanistan. Britain, concerned about the Russian expansion east, invaded Afghanistan in 1839 and fought the first Anglo-Afghan War. This led to a decade of machinations between the two nations and two more bloody wars, at the end in 1919 Afghanistan won it independence.[7]

Starting in the late 1970s, each decade has been characterized by a different type of turmoil that has spread outside the boarders of Afghanistan. In 1979, the Cold War came to Afghanistan in the form of an internal struggle for power between Islamist and Communist.[8] When the Soviet's crossed the Amu Darya River and into Afghanistan, ostensibly to restore stability following a coup had brought to power a pair of communist groups (the People's Khalq Party and the Banner Parcham Party). These two groups united and formed the new Government "the People's Democratic Party of Afghanistan" (PDPA).[9] This new government, which had little popular support, forged close ties with the Soviet Union, thus the appeal for communism in the Afghan Army led to a military coup by Marxist army officers in April 1978.

As the Afgan Army attempted to impose a purist Soviet-style Marxist state in Afghanistan, a feud between the two communist parties broke out when an attempt to implement land and social reforms on Afghanistan's conservative, tribal-based Muslim society, which was bitterly resented by Muslim and anticommunist population.[10] This triggered a rebellious uprise by Islamist fighters, known as the Mujahedin (those who engage in jihad). They were supported by Pakistan, Saudi Arabia and the U.S. and joined in their fight by foreign volunteers. This tribal and urban group began a crusade in an attempt to oust the current Afghan regime.

The Soviet Union invaded Afghanistan on December 24, 1979 in order to quell the brewing civil war and the growing strength of the mujahedin insurgency.[11] However, in response to the Soviet occupation of Afghanistan, the Carter and Reagan administration's in the U.S. began arming the Mujahedin, through Pakistan's Inter-Services Intelligence Directorate (ISI), who decided to support the Afgan Islamists, and their efforts to launch an insurgent movement against the PDPA.[12] In the 1980s at the height of the Cold War, the Mujahedin backed by the U.S. and Pakistan's ISI, fought the Soviet Union and its attempt to spread Marxism.[13] As a result the Afgan War went on for the next 10 years, until faced with increasing international pressure and a great number of casualties (between 850,000 and 1,500,000) on both sides. The Soviets withdrew in 1989. The Soviet withdrawal was seen as an ideological victory in the U.S.; which had backed the Mujahedin factions through three U.S. presidential administrations to counter Soviet influence in the vicinity of the oil-rich Persian Gulf.[14]

In the 1990s Afghanistan saw yet another internal struggle, this time it was a civil war between various Mujahedin factions that had emerged during the Afgan War.[15] After the soviet withdraw the Afgan government steadily lost ground to the Mujahedin factions, and in early 1992, the City of Kabul was captured, and the various Mujahedin factions established an alliance, to form a new government consisting of a 50-member ruling council; Burhanuddin Rabbani was named interim president. However, the Mujahedin factions proved unable to unify, and the forces of an opposing faction led by Gulbuddin Hekmatyar launched attacks on the new government. As the fighting continued among these groups, Afghanistan was divided into several independent zones, each with its own ruler.[16]

In 1994 a faction of Pashtun Islamic fundamentalist students, know as the Taliban emerged as an influential and dominant force. In September of 1996, the Taliban captured Kabul, and rose to power establishing them as the legitimate government of the Islamic Emirate of Afghanistan; they imposed a particularly puritanical form of Islamic law in the two thirds of the country, and provided a safe haven to al Qaeda.[17]

Following the al Qaeda's attacks on the U.S. in September 2001, the U.S. and the Afgan Northern Alliance faction removed the Taliban from power. Since then they have led an insurgency movement against the United Nations backed government. "This insurgency has characterized the first decade of the twenty-first century."[18]

Mission

The original mission in Afghanistan in October of 2001 was the destruction of al-Qaeda forces responsible for the 9/11 terrorist attacks, and the overthrow of the Taliban regime that was providing a safe haven for al-Qaeda. The mission was accomplished rather quickly, and by the spring of 2002, Afghanistan held a governmental election, had established a new government, and seemed on the path towards a democracy. However, Coalition forces remained in Afghanistan, and the U.S. units largely reside in small bases from which they mounted security missions.[19]

During the Coalition Campaign in Afghanistan, 2001-2008 the coalition structure and overall approach of the U.S. effort changed greatly after 2002. There was a large amount of opposition to the new democratic established government, and the U.S. presence in Afgan affairs. By 2004 it appeared that a spike in various insurgent and terrorist groups, connected through Taliban leaders were on the rise (operating out of Pakistan) with a mission focusing their primary efforts against the new Afgan

government and the Coalition.[20] In order to mitigate this military effort from insurgent groups, the U.S. initiated a new counterinsurgency (COIN) campaign.

The campaign required Coalition forces to take responsibility, and expand their area of operations in the eastern and southern regions of Afghanistan. American commanders in their efforts to accomplish their mission, began working along side the Afgan security forces they were in the process of training, attempted to gain the support of the populace by providing security from these insurgent groups, and using the newly developed Provincial Reconstruction Teams (PRT) to assist in improving living standards. However, this became a challenge with the amount of forces on hand.

The belief among senior Coalition and military leaders was that military operations in Iraq in 2005 were more important and dire than in Afghanistan; thus Afghanistan became an economy of force mission campaign in the larger Global War on Terrorism (GWOT). This caused Coalition forces to be spread thin across the eastern and southern territories of Afghanistan. Ultimately, commanders had to do more with less, and U.S. battalion task forces were charged with exremely large areas of operations, some as large as a small U.S. state. These battalion task forces conducted both kinetic and non-kinetic operations, in order to create stability in their respective areas of operations with limited troops and resources.[21]

By 2007 there had been a significant increase in the Coalition troop level, and the command structure had shifted, the International Security Assistance Force (ISAF) command, which was a NATO-led security mission, served as the senior headquarters for military operations in Afghanistan. In addition, a combined Joint Task Force-82 (CJTF-82) was organized under the umbrella of the 82d Airborne Division headquarters, and

augmented to perform a joint task force role. The division Commander Major General David M. Rodriguez had a two-fold mission, as commander of ISAF operations in RC-East and combat forces of CJTF-82 not formally assigned to ISAF. General Rodriguez campaign plan was based on executing "full spectrum operations" combined offensive, defensive and stability operations, (now called Unified Land Operations) along three Lines of Operations (LOO): security, governance, development, and Information Operations, with the purpose building the capacity of governance, degrading destabilizing forces, and strengthening the Islamic Republic of Afghanisan. Major General Rodriguez articulated his mission in the following way:

> In conjunction with the Islamic Republic of Afghanistan, joint, interagency, and multinational partners, CJTF conducts full spectrum operations to disrupt insurgent forces in the combined joint operations area, develops Afghanistan national security capability, and supports the growth of governance and development in order to build a stable Afghanistan." With the strategic goal of creating a "self reliant" Afghanistan.[22]

To achieve both the CJTF-82 mission and strategic goal at the tactical level, the combined efforts of the PRT, military civil affairs, State Department personnel, and the maneuver battalion size forces conducted a laborious job not only to stabilize their assigned area of operations, but strived to extend and improve the reach of the democratically elected Government of Afghanistan throughout the region.[23]

After two years of conducting unified land operations, President Obama in March of 2009, announces a new strategy for the war effort, linking the success of Afghanistan to a stable Pakistan. The strategic goal was "to disrupt, dismantle, and defeat" al-Queda and its safe havens in Pakistan, and prevent their return to Pakistan or Afghanistan." The plan aims to deploy four thousand additional troops to train Afgan security forces, increase aid to Pakistan, and establish a strict standard to measure the progress in fighting

al-Qaeda and the Taliban. The strategic end state was to bring Afghanistan and the international community closer to success.[24]

At the 2010 summit in Lisbon, a declaration was signed by NATO member countries, agreeing to hand over full responsibility for the security of Afghanistan to the Afghan security forces by the end of 2014. A timeline for Security transition was outlined, with the process set to begin in July 2011, with local security forces taking over control in relatively stable provinces and cities, and with the final withdraw of U.S. and International troops by the end of 2014. There is a great concern from the Afghanistan population and westerners on the ability of the Afgans security forces to secure the country from the influential and persistent al-Qaeda and Taliban forces.[25]

In pursuit to achieve the operational objectives in Afghanistan the Americans and Coalition forces would conduct numerous operations. To the Afghanistan Campaign to be a success, the Coalition forces would have to use a three-pronged approach; namely, to build the capacity of governance, degrade and destabilize the insurgent forces and strengthen the Islamic Republic of Afghanistan. Although not every operation and battle will be studied the author will highlight those that he believes will bring relevancy to this study.

Operational Plans

As previously stated, the overall mission approach in Afghanistan has changed a number of times, since the U.S. launched military Operations in October 7, 2001. For the first four years U.S. operations were generally commando style raids performed by special operations units, with the mission to kill or capture high value targets (HVTs) or larger operations by conventional forces that were limited in duration; these units have

fought against a determined Taliban and al-Qaeda forces.[26] After 2001 and until present time there were numerous operations fought in order to achieve the overall U.S. and Coalition forces military strategic objectives. It is worth mentioning that at the tactical level, the strategy used particularly in northeastern Afghanistan (in order to protect the local populace from insurgent forces), depended on having small bases in and around the populated areas, from which soldiers could interact and connect with the population. Even though inherently there is a lot of risk associated with this strategy, and historically it represents a challenge to commanders fighting the insurgencies. However, it is beneficial to most communities: (1). It connects the population with the their government, with the Coalition forces. (2). It not only provides security from the insurgents, but they can help build the communities with infrastructure projects and humanitarian aid. (3). It trains the local security forces.[27]

Operation Anaconda

Operations such as Anaconda in March of 2002, which was the first operation in the Afghanistan Theater to involve a large number of U.S. conventional forces participating in direct combat operations. The operation was a combined effort between U.S. military, CIA Paramilitary Officers, working with allied Afgan forces and other NATO and non-NATO forces in an attempt to destroy al-Qaeda and Taliban forces. For a two-week period the Coalition battled 300 to 1,000 al-Qaeda and Taliban forces in the Shahi-Kot Valley and Arma Mountains southeast of Zormat to obtain control of the valley, which was providing refuge to these insurgents.[28] During the research for this study, the author was not able to locate any publications that Pathfinder Teams were used in Operation Anaconda. However, 1st and 2nd Battalions form the 187th Infantry

Regiment, 101st Airborne Division along with elements of the 10th Mountain, SOF and Coalition units participated in this Operation. UH-60 and Chinook helicopters mostly inserted conventional units into the combat zone, and helicopters from the 160th Special Operations Aviation Regiment (SOAR) inserted SOF units. It is not known by the author if planners considered using Pathfinders to secure and establish the LZs, provide navigational assistance, and provide terminal control for the Army aircraft to their designated LZs.

Battle of Wanat

The Battle of Want that occurred on July 13, 2008 on a small remote outpost of Kahler in northeastern Afghanistan near Quam, in the Waygal district in Afghanistan's far eastern province of Nuristan. Manned by 48 U.S. Soldiers, 24 Afghanistan National Army (ANA) and three U.S. Marine Corps advisors. The camp was overrun by a significant large amount of Taliban insurgent forces, “who executed a sophisticated coordinated attack using stealth, camouflage, communications discipline and rapid movement to close in on the Combat Outpost (COP) perimeter. To included coordinated rocket-propelled grenades (RPGs), small arms, heavy machine gun fire, and mortar barrages to inflict heavy casualties.” Ultimately, nine U.S. Soldiers were killed and 31 wounded. The COP was soon after abandoned.[29]

Prior to the battle of Want there were a series of events that need to be emphasized to understand why this engagement took place. In May of 2007, 2nd Battalion, 503 Infantry Regiment (Airborne), 173rd Airborne Brigade Combat team relived 1st Battalion, 32nd Infantry Regiment, 3rd Brigade, 10th Mountain Division. The unit occupied COPs Bella and Ranch House. However once the 2-503rd (TF Rock) took

over operations in their new area of operations the battalion commander Lieutenant Colonel Ostlund wanted to have more flexibility with his battalion, and the majority of the action for his battalion was in the Korengal Valley.

The Waygal Valley where COPs Bella and Ranch House were located deemed to be relatively quiet, and the manpower could be better utilized in the Korengal Valley. [30]Until the approval occupy another location LTC Ostlund began to conduct operations in his assigned area of operations. He assigned his Chosen Company a two-fold mission one was to of provide the Quick Reaction Force (QRF), based out of Camp Blessing, and the second was to occupy COPs Ranch House and Blessing. The company commander rotated two platoons between the COPs mission and his third platoon was attached to Destined Company. However after a careful analysis of the Area of Operations LTC Ostlund determined that two rotating platoons committed to defending both COPs in the Waygal Valley left the outpost very vulnerable for an insurgent attack.

Prior to CJTF-101 assuming responsibility of Regional Command (RC) East sector of Afghanistan from CJTF-82, Major General Schloesser conducted a series of Pre-deployment Site surveys (PDSS), in which he visited the COPs in the RC-East sector. During these visits, MG Schloesser the Division commander formed the opinion that COPs Bella and Ranch House were too far from friendly LOC, and did not seem to have enough troops to accomplish the mission of enhancing governance and separating the people from the enemy.[31]

After Major General Schloesser made this determination, and arrived in country, and took responsibility of RC-East on April 10, 2008 the 101st Divisional Pathfinder teams went to work. They began to conduct reconnaissance missions in and around

Wanat, in the Wynat Valley. The Pathfinder teams identified an alternate site to the one eventually selected for the COP at Wanat; however, the location was a few hundred meters up a spur. It was ruled-out because it was determined that the location and the platoon occupying it would be to far from the local population.[32]

In the Spring of 2008 CJTF-101, 2/503rd, 173rd Airborne Brigade Combat Team undertook the effort to realign Coalition Forces in RC-East. The purpose of the realignment was to free-up maneuver elements to better support counterinsurgency operations by locating Coalition Forces near population/economic centers, local government officials, and Afghan National Security Forces.[33]

Eventually after all reconnaissance had been completed between the 101st Divisional Pathfinder teams and the Brigades reconnaissance elements, and the village of Wanat was chosen to support COIN operations in the area, and to serve as a blocking position in the Wygal valley, which seven kilometers north of the Battalion's command post at Camp Blessing. The movement from COP Bella took place between 8-9 July and on July 13 COP Kaher was attacked prior to the unit completing its defenses.[34]

As many attacks continued on the small combat outpost in an around RC-East, and the CJTF-101 area of operations, Pathfinders contributions to this effort did not go unnoticed. The Divisional (101st Airborne Division and 10th Mountain Division) Pathfinder's would soon embark in a series of mission that would contribute to the successful accomplishment of the CJTF mission in the RC-east and Pakistan border.

Personnel Recovery of Downed Aircraft

It was among the deadliest days for U.S. forces in Afghanistan since the war began in late 2001. On the evening of May 29, 2011, a medevac helicopter made an

emergency landing in Zabul province. Navy SEALs had been in a firefight nearby and intelligence reports warned there might be an attack on the helicopter. Once this report was received, Pathfinders from the 159th Combat Aviation Brigade, 101st Airborne Division, at Forward Operating Base Wolverine in Zabul, whose primary mission was personnel recovery of downed aircraft, went to work.[35]

A Pathfinder Team was immediately alerted, loaded up on a Chinook helicopter, and dropped into a remote field near Combat Outpost Baylugh, site of the emergency landing. They evacuated the MEDEVAC team, and secured the site until the helicopters and the Downed Aircraft Recovery Team (DART) arrived. Once the DART and additional security elements arrived from COP Baylough to help with security of the site, the Pathfinders and DART team began recovering the downed aircraft. Pathfinders conduct sling load procedures and loading of pieces of the Helicopter on a pair of U.S. and Australian Chinooks, which were working in tandem to carry out the dismantled helicopter and return troops to their nearby bases.[36]

As the U.S. Chinook made its final turn, Pathfinders loaded the last of the dismantled helicopter and looked for their ride home, the Australian Chinook. While waiting for the Australian Chinook to arrive, from an open field, several Pathfinders watched as the Australian Chinook dropped from the sky, falling at a 90-degree angle behind a ridge. Immediately a Kiowa gunship, which was providing area observation, radioed the U.S. Chinook stating, “Varsity, I think your wingman just went down.”[37]

Moments later, the Pathfinders on the ground and security elements loaded the U.S. Chinook. The U.S. helicopter flew to the site of the downed aircraft, unknowning what had caused the crash. Thinking the helicopter may have been shot down the

Pathfinder team landed, and immediately secured the site. Members of the Australian crew appeared from the smoking and wreckage. They were in shock and bleeding badly, but they could walk. The Pathfinder team began conducting MEDEVAC and personnel recovery procedures, within minutes; the wounded were loaded on the U.S. Chinook and taken to the military hospital in Qalat. After all personnel recovery procedures were completed the Pathfinders along with the DART team began recovery of the second downed aircraft.[38]

Vehicle Recovery Missions

A Pathfinder team from Company F, 2-10 Aviation Regiment, Task Force Knighthawk, 10th Mountain Combat Aviation Brigade, during their deployment in the summer of 2011, were called upon to extract Polish soldiers who where pinned beneath an overturned armored vehicle in eastern Afghanistan. There unique skills again contributed to the success of the 10th Mountain Division Mission.[39]

Afgan Pathfinder Partnership Academy

Pathfinders from Company F, 2nd Battalion, 25th Aviation Regiment, 25th Combat Aviation Brigade, 25th Infantry Division, at Forward Operating Base Wolverine, Afghanistan, established the first-ever two week Rado Barq Zadan “Lightning Strike” Pathfinder Academy. During this course Afgan National Army Soldiers were taught how to conduct Pathfinder and air assault operations, with the goal to help the Afghan army sustain outlying combat outposts and forward operating bases once coalition forces leave Afghanistan.[40]

During the course of instruction, the Afgan Soldiers learned how to administer life-saving skills, MEDEVAC operations, plan and execute air assault operations, conduct tactical site exploitation, and rig, certify and execute sling-load operations. On June 14, 2012 in combined graduation Lt. Col. AJ Hotek, executive officer, 4th Kandak, presented the graduates their Pathfinder Lightning Strike Scrolls, and Lt. Col. Kelly Hines, commander, 2nd Bn., 25th Avn. Regt., presented the graduates with certificates of completion.[41]

Pathfinders In Afghanistan

Even though, Pathfinders were not highly publicized, and not much has been printed, their contributions to the war effort in Afghanistan did not go unnoticed. These highly specialized Soldiers once again reestablished specialized mission sets, with a primary emphasis on conducting Personnel, Downed Aircraft, and Vehicle Recoveries. The unforeseen and wide range of threats and challenges in the Afghanistan Theater served to both demonstrate their ability, and to further enrich their capacities. In addition, Pathfinder teams excelled in establishing and operating resupply DZs, and rigging, inspecting and certifying sling loads, and at times rigging unique sling loads (recovery of destroyed equipment) for external movement in order to aid the ground unit commanders in accomplishing their assigned missions.

The inherent value of the Pathfinder lies in the fact that their employment is limited only by the commander's imagination and ingenuity. Commanders from the 101st Airborne Division, 82nd Airborne Division, 10th Mountain Division, 25th Infantry Division, and other units throughout the Army have done just that. They have employed Pathfinders in Afghanistan in a vast array of mission to include:

1. Personnel, Downed Aircraft and Vehicle Recoveries

2. Establishing an Afgan Pathfinder Partnership Academy

3. Establishing and operating DZs and LZs

4. Providing navigational aid and terminal guidance to both fix-wing and rotary-wing aircraft

5. Establish impromptu runways

6. Reconnaissance and Surveillance

7. Controlling airfields/Providing air traffic control

8. Establishing and operating resupply missions

9. Certifying sling loads

10. Unconventional missions

11. Planning Air Assault or airdrop missions

These concepts continue to make the U.S. Army Pathfinders an indispensable force multiplier in support of the ground commander's mission; their efforts continue to be inestimable.

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CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

> Great leaders are almost always great simplifiers, who can cut through argument, debate, and doubt to offer a solution everybody can understand.
>
> — General Colin Powell

This historical analysis illustrates the evolution of the U.S. Army Pathfinder and its contributions to modern warfare. Through its well-documented and detailed descriptive history it clearly shows how they morphed from a rudimentary one-dimensional force to a sophisticated multi-dimensional unit with a high degree of adaptability to the ever-changing theaters of war.

From their origins in the early days of the United States' combat operations during WWII, Pathfinders have provided specialized and critical tasks to commanders at various levels of responsibility. In the opening phases of the Allied assault on Europe, they would descend behind enemy lines and spearhead large-scale airborne assaults, providing visual and navigational aid to assist the pilots in identifying DZ and LZs. In other theaters of operation, including in the Pacific and on the Island of Luzon, Pathfinders proved themselves to be an invaluable advance force, greatly enhancing Allied insertion operations and greatly facilitating overall success in those operations.

During the war in Vietnam, Pathfinders' demonstrated their flexibility and rapidly transformed to meet the needs of a new form of warfare brought about by the concept of airmobility. Later, these units morphed again to provide specialized mission sets including personnel and downed aircraft recovery in Afghanistan. Other critical

Pathfinder missions, including operating DZs for resupply missions, have been well documented in this study.

It is hoped by this author that awareness has been raised to the fact that in spite of these accomplishments, and on more than one occasion, this force has been all but abandoned. Fortunately on a number of occasions imaginative ground commanders have seen the need for their specialized capabilities, and time and again they have risen to the challenge and dramatically shown their excellence. Theirs has been a tale of success and dexterity in the face of versatile needs.

On December 2, 2013, the Army Training and Doctrine Command (TRADOC) published the TRADOC-risk functional training 1~N list. The 1~N list rank orders all military courses in the Army for the purpose of funding. It specifies which courses the Army must maintain in order to meet its functional objectives. These courses are analyzed and evaluated to determine their relevancy in meeting the Army's future challenges in an era of persistent conflict. The Pathfinder Course (2E-SI5Q/011-ASIF7) was ranked 107th on the list, and fell below the cut line of possible military courses to be unfunded for FY 2016.

As the Army nears the end of approximately 13 years of war, it starts to analyze, evaluate and determine what the force structure should look like to meet the strategic objectives of the 21st Century established by the President and the Secretary of Defense in the National Defense and Military strategies of the United States. The Department of Defense (DOD) was issued a directive to be prepared to conduct 11 missions, which have been identified as priorities for our new national defense strategy.

In the 2013 Army Strategic Planning Guidance (ASPG) the Army defines its vision in the form of regionally-aligned, mission-tailored forces, who are regionally engaged, and are an indispensable partner and provider of a full range of capabilities to combatant commanders in a joint, interagency, intergovernmental and multinational environment.

In order to fulfill the DOD directive, the Army will have a significant role in 10 of the 11 missions. “The Army will use the following three missions to guide the force sizing and construct: Conduct Counterterrorism and Irregular Warfare, Deter or Defeat Aggression, and Defend the Homeland and Provide Support to Civil authorities.”[1]

The Army will align these mission-tailored forces against one of the variant missions, “structure, train and equip these units to maintain a high level of proficiency to conduct unified land operations. Including their ability to retain certain capabilities that are tailored to meet the requirements for one or more of the specific missions.”[2] In order to meet these requirements the Army will need highly skilled, trained and adaptable forces, which are organized by leaders in formations from squad size elements to corps size formations empowered by soldiers.

Why does the Army with the limited resources it has available to train and equip its forces continue to examine the relevancy of the U.S. Army Pathfinder and is looking in other directions? As previously stated, research has demonstrated that the Pathfinders skill set is a highly flexible component readily adaptable to meet the regionally-aligned, mission-tailored forces outlook, and a proven resource to the success of the ground Commanders varying tactical plans.

In judging current thought from this perspective the author begs to differ with the views being espoused by those concerned with their future. It is the belief of the undersigned that these skills must not only be maintained, but also developed further. Not letting short-term fiscal savings hinder long term operating capabilities.

However, it is necessary to examine the current organizational structure and the best method of utilizing this force. It is in light of this that following recommendations are made, which would enhance and transform the U.S. Army Pathfinder force to continue its relevance in today's new strategic vision.

1. Funds should continue to be allocated to the U.S. Army Pathfinder Course at Fort Benning, Georgia (1st Battalion, 507th Infantry) the executive agent, the Pathfinder course at the Sabalauski Air Assault School, Fort Campbell, Kentucky, and the National Guard Warrior Training Center at Fort Benning, Georgia.

In accordance with the risk assessment drafted for TRADOC the Department of the Army G3/5/7 training operations management activity (TOMA), there are risks associated with eliminating the funding for the Pathfinder Course; the following was presented:

a. The Pathfinder course is ranked in the Infantry Commandants top four priority of schools, behind Airborne, Jumpmaster and Ranger Course. Furthermore, it is an Army Additional Skill Identifier (ASI) producing school, governed by doctrine, which trains a specialized and unique skill set that is a critical requirement to integrate rotary and fixed wing air operations into the ground commander's tactical plan. Eliminating this course would not produce the 700+ Pathfinders (required yearly field demand) needed in the field. There would

be a lack of specialized personnel to conduct air operations, including the Ground Marking Release System (GMRS) and Verbally Initiated Release System (VIRS) that if not taught in this course would preclude the execution of airborne operations and resupply by parachute. Both rotary and fixed wing aircraft are used extensively in today's operations, and will be used extensively in the future.[3]

b. It will reduce the ability to conduct airborne and air assault operations by decreasing the ground commander's ability to integrate airmobility into his ground tactical plan. The Pathfinder provides the commander the technical expertise in planning and executing air movement, air assault, airborne and air re-supply operations.[4]

The Pathfinders will not only provide their primary skills of navigational aid in the Army's future as a regional-aligned, mission-tailored force, but it will also provide advisory services to military aircraft by establishing operating multi-ship rotary wing pick-up and landing zones, and by executing certified and unique/non-standard sling load operations.

2. The Pathfinder Course Program of Instruction (POI) needs to be modified in order to meet the future mission requirements of regionally-aligned, mission-tailored forces that can provide a full range of capabilities. The following is proposed:

a. The Pathfinder student should be instructed to have a core curriculum of reconnaissance, surveillance, target acquisition and aerial photograph interpretation, so they are able to gather and report intelligence. This independent force should be offered the ability to provide intelligence of key targets of interest to the ground tactical commander in the absence of the Long Range Surveillance

(LRS) Teams. It can also serve as an augmentation force to the LRS teams in different sectors of the Area of Operations, particularly in or around the DZ or LZ.

b. Incorporate call-for-fire procedures with varying platforms to include: Request, control, and adjust surface-to-surface fires (Artillery and Mortars) and qualify as an on-the-ground forward air controller (GFAC) to provide close air support (CAS) with Army attack helicopter platforms in order to maximize their fires with precision on the intended target.[5] If necessary, provide targeting information to the Joint Terminal Attack Controllers (JTAC) or Forward Airborne Controller (FAC "A") in support of Type 2 and 3 CAS terminal attack controls.

c. The Pathfinder student receives a block of instruction on the basic fundamentals of demolitions to the extent that he can remove obstacles from LZs or DZs. This should be a required skill, especially if called upon to operate in a region where the terrain is restrictive and a hasty DZ or LZ needs to be established to meet the ground commander's tactical objectives.

d. A period of instruction should be dedicated to teaching the Pathfinder student radiological survey techniques. This will allow the Pathfinder to conduct limited chemical, biological, radiological, or nuclear (CBRN) monitoring and surveying of designated areas. Additionally, while a Pathfinder team is en route to their objective area they can conduct a radiological recon of the flight route by monitoring with radiation detecting instruments, and reporting any contamination back to the ground tactical commander.[6]

3. Organizational Change to the Pathfinder Force Structure. Todays rapidly changing environment commands that even established organizations must change to remain viable. The following is a proposed concept for an organizational change that might better utilize the functions and capabilities of the Pathfinder forces. Their greatest advantage lies in their ability to reach the operating environment first, and being able to provide a plethora of different functional skills that are inherent to their training.

a. At the present time, there are three standing and two ad hoc Pathfinder companies in the Army: Company F (Pathfinder), 2nd Battalion, 82d Aviation Regiment at Fort Bragg, N.C.; Company F (Pathfinder), 5th Battalion, 101st Aviation Regiment, 101st Aviation Brigade, 101st Airborne Division (Air Assault); and Company F (Pathfinder), 4th Battalion, 101st Aviation Regiment, 159th Aviation Brigade, both at Fort Campbell, Kentucky; (two ad hoc) Company F, (Pathfinder) 2nd Battalion, 10th Aviation Regiment, 10th Combat Aviation Brigade, 10th Mountain Division and Company F, 2nd Battalion, 25th Aviation Regiment, 25th Combat Aviation Brigade, 25th Infantry Division.

As seen above, these Pathfinder Companies are located within their respective aviation brigades. It is very desirable to have Pathfinders work and live as close as possible to the aviation units they will be supporting. This will develop a habitual working relationship, to learn (Pathfinder's and pilots) each other's capabilities and limitations, and to develop mutual respect and trust.

There is no question that Pathfinders are needed in the aviation brigades to support the airmobility mission, and during maneuver operations that require sustained aviation guidance; the question is: Does an aviation brigade need a company of

approximately 60 Pathfinders to accomplish their mission in today's new strategic vision? Are Pathfinder elements within the aviation brigades being employed effectively to conduct the myriad specialized functions that are within their capabilities? The answers to these questions are beyond the scope of this work, but certainly they raise a motivation for further studies. This research, however strongly suggest that changes to the Pathfinder mission are needed.

Currently the Pathfinder companies (approximately 60 Soldiers) are organic to the Assault Helicopter Battalions (AHB) within the divisions. "It has a company HQ, General Support (GS) platoon, and direct support (DS) platoon. The HQ section consists of a medical section and communications section. The GS platoon consists of a platoon HQ and two GS pathfinder teams. The DS platoon consists of a platoon HQ and two DS pathfinder teams."[7]

It is recommended that this force structure be examined closer and that the following be considered in support of the AHB. The AHB should consist of two Pathfinder Detachments with 2 officers and 13 enlisted men each. Each detachment assuming the role of the GS and DS platoon. The mission and role a Pathfinder Company in an aviation brigade could be executed with a smaller force. The aviation commander will still have a highly trained, specialized infantry element within his formation, which can conduct the multitude of specialized Pathfinder functions needed to meet the overall objectives. These Pathfinder detachments, in turn, will still be a viable resource in the aviation brigades. These changes will allow desired economies while still retaining efficacy.

b. The future of the Pathfinder lies in the Infantry Battalions and Cavalry Squadrons. In collaboration with Mr. Gary Fox, Director, Office of the Chief of Infantry, a change to the current Pathfinder allocations and density should be considered to increase the capacity to conduct Pathfinder operations across all types of brigade combat teams. For Fiscal Year (FY)16 the Army active component operational units in the General Purpose Forces will consist of:

(1) 10 Division, 32 Brigade Combat Teams with 93 Maneuver Battalions and 32 Cavalry Squadrons

(2) The 32 brigade combat teams will consist of 15 Infantry Brigade Combat Teams (IBCT), 8 Stryker Brigade Combat Teams (SBCT) and 9 Armored Brigade Combat Teams (ABCT)

(3) The 15 IBCTs will consist of 42 Infantry Battalions and 15 Cavalry Squadrons each for a total of 57 Battalions/Squadrons

(4) The 8 SBCTs will consist of 24 Infantry Battalions and 8 Cavalry Squadrons each for a total of 32 Battalions/Squadrons

(5) The 9 ABCTs will consist of 27 Infantry Battalions and 9 Cavalry Squadrons each for a total of 36 Battalions/Squadrons

(6) In each of these Battalions/Squadrons there is a minimum of 1 Infantry Scout Platoon (within the Headquarters Headquarters Company (HHC) Infantry Companies or Combined Arms Companies) and 3 Reconnaissance Platoon (within each Cavalry Troops)

It is proposed that the Infantry Scout Platoons and Cavalry Reconnaissance Platoons, already highly specialized and versatile forces in their own right, incorporate

and be trained in Pathfinder Functions. This will provide the ground tactical commander with an indispensible force to meet the Army's new strategic vision.

It would be a requirement that all Sergeant (E-5) and above operating in a dismounted capacity within these platoons be a trained and qualified Pathfinder. This would target the highest density of soldiers in Army. In addition, the following training path for a qualified Pathfinder serving in a Scout platoon would be as follows:

1. Complete and be a qualified Pathfinder (with additional skills as a GFAC, Basic Demolitions and CBRN). Trained as part of the Pathfinder Course core curriculum

2. Reconnaissance and Surveillance Leaders Course (RSLC)

3. Robust Air to Ground integration training (combination of institutional and organizational)

4. Qualify as an advance combat lifesaver with a glide path working towards an Emergency Medical Technician (EMT) National Certification

5. Incorporate additional environmental focused training aligned to the region the unit will be operating in i.e. (Jungle Familiarization Training; Mountain Warfare Training)

This training plan would have to be closely managed in the BCTs 24-month training strategy. As these soldier's continue to get promoted throughout the Army, and continue to rotate among platoons and companies, they will continue to build this capacity, not only in the Infantry Scout Platoons and Cavalry Reconnaissance Platoons, but also throughout the rest of the Platoons in these Battalions. Commanders will be prized with a well-trained force easily tailored to their needed force packages.

Many leaders would question the ability to implement this plan; however, implementing change is always hard and not always well received. It is up to the leaders to push their organizations from the present to the future along a path illuminated by their vision.

Further study on this concept is highly recommended to examine all the details associated with this implementation into the Army force structure. It is recommended that a board consisting of proponent, Army Command (ACOM)/DA level and Division stake holders convene to take a comprehensive look at the Pathfinder force structure requirements. In an effort to consider the implementation of this radical change in the Army structure.

The aim of this study was to provide a historical account and analysis of the U.S. Army Pathfinder history from their rudimentary beginning in the European theater of WWII to what they are today. It also seeks to contribute to the body of knowledge relevant to the profession of Arms and to military history. The analysis of this history has provided the author with a retrospective view that has fostered the needed recommendations for improvements. Conclusions are drawn and recommendations are made to optimize the employment of Pathfinders and their operations.

It is hoped by this author that awareness has been raised about the unique mission of the Pathfinder, a historically misunderstood force, and that it motivates the recommended changes in order to preserve, while improving on what has been a highly successful and contributory force.

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[5]LTC Christopher F. Bentley, “Afganistan: Joint and Coalition Fire Support in Operation Anaconda,” *Field Artillery* (September-October 2002): 14.

[6]Lieutenant Richard Bickwell and SFC George Beck, “Pathfinder Operations” (Report of Infantry Conference, U.S. Army Infantry School, Fort Benning, July 15-19, 1963), 60-62.

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