

KRETA ALS BEISPIEL: GERMAN AIRLIFT DURING THE BATTLE OF CRETE

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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

KRETA ALS BEISPIEL: GERMAN AIRLIFT DURING THE BATTLE OF CRETE, by Major Allen C. Morris, Jr., 164 pages.

The Battle of Crete began with the first, and last, division-sized German airdrop of parachute and glider infantry into a contested environment during World War II. It culminated in a massive airlift relief operation with far-reaching strategic aftereffects for the Germans and Allies alike. As such, the campaign set the tone for airborne operations during the war and canonized several tenants of forced entry operations still used today. *Luftwaffe* commanders conceived Operation Merkur in a resource-limited, time-restricted environment; though victorious, the plan as originally conceived, failed. German airlift shaped this pyrrhic Axis victory by first endangering, and then subsequently saving the German operation. The Germans capitalized on an opportunity and rapidly reinforced a single lodgment via airlift, abandoning previously proven concepts of employment to attempt new tactics which ultimately saved their forces from defeat. Had the *Luftwaffe* employed its airlift forces at the Battle of Crete to exploit mass and synergy at a single lodgment, the resulting overwhelming force might have drastically changed the conduct of this battle.

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The idea for this thesis started in 2007, when I first read about the Battle of Crete. Throughout my own research I learned that the battle and its outcomes connected to American airlift and airborne doctrine in many ways. Seemingly disregarded in the American airlift community, I wanted to reveal the impact Crete had on how we operate today; the MMAS program at Army CGSC made that possible.

I wish to thank my committee, because they saw something in my ideas that sparked their interest. They stuck with me throughout, providing much appreciated instruction, course corrections, and support. Dr. Mark Gerges saw something in my passion for this subject and volunteered to chair. His confidence bolstered mine, and I am forever thankful. Dr. Mark Hull brought his expertise in the German military to the table, and helped make the final product historically correct; I am proud to have worked with you once again, sir. Maj. Clayne Bradley brought his airlift experience and red pen to bear on these ideas, and faithfully corrected my sidetracks and terrible grammar. His support and enjoyment of the writing process made it a pleasure to put thoughts on paper.

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ACRONYMS

GRF	Global Response Force
HQ	Headquarters
JFE	Joint Forced Entry
JOAC	Joint Operational Access Concept
JP	Joint Publication
KGzbV	<i>Kampfgruppe zur besonderen Verwendung</i>
LLStR	<i>Luftlande Sturm Regiment</i>
MAJCOM	Major Command
OKH	<i>Oberkommando der Heeres</i>
OKL	<i>Oberkommando der Luftwaffe</i>
OKW	<i>Oberkommando der Wehrmacht</i>
RAF	Royal Air Force
USAF	United States Air Force

CHAPTER 1

INTRODUCTION

Sweat stung the colonel's eyes as he perspired in his seat, the afternoon sun beating down through the cockpit glass. He winced and sighed deeply; open windows, even at 120 miles per hour, offered little relief. He thought about the absurdity of wearing a parachute as the Ju-52 transport thundered south, barely 100 feet above the wave tops. Squinting in the sunlight, he pondered the ironic betrayal of the cloudless sky. The transports were easy targets. Glancing right, he saw the ghost-white copilot sweating profusely from under his leather flying helmet. The colonel looked over his shoulder and saw the nervous young faces of the mountain infantrymen stuffed into his aircraft, their knees interlocking, their white edelweiss patches standing out against the grey of their tunics. Most struggled with their collars against the heat or grasped their rifles with white knuckle grips. Airsickness struck many. Throughout the short, unpleasant flight the transport rocked and bounced along in the rough afternoon air currents.

As his eyes met those of a particularly young-looking blonde soldier, he nodded and smiled confidently before turning back to watch the mountains and northern coastal plains of Crete steadily grow larger in his windscreen. The island's green orchards and olive trees appeared inviting, stretching from the mountainsides to the beaches, like a post card from some coastal resort; south of this paradise stood the ominous brown and beige mountains. The colonel recognized the bare earth of the airfield ahead. Maleme, just a white sandy spot hacked into the otherwise green landscape south of the beach, like a scar healed over the island's flat northwest plain. For a second more it was quiet, with no movement visible. About three miles to the shore, the hardscrabble airfield clearly

stood out against the surrounding hills, even from a low altitude. The colonel took a deep breath, smelling the stinging odor of aviation gasoline and getting his first whiff of a more foreboding scent—cordite.

The colonel looked down to the wavetops. He recognized that the afternoon sea breeze would force a landing to the north, and turned the yoke to the right slightly to help him offset to the west. The colonel was an old pro; flying to the west of the field kept the landing runway in sight on the inside—the pilot’s side—of the turn, making aligning for landing easier than attempting to do so with a view across the cockpit. A half mile to the shore now, and the red-black-and white swastika marker panels laid out on the airfield were clearly visible. German troops still held the field.

Then the sky exploded. Ahead of the transport, geysers of ocean water jumped into the air so close the colonel initially thought he’d have to fly through them before they harmlessly passed below his aircraft. Tracers tracked across the transport’s nose in long angry streaks of red and yellow. He pressed on, dodging through the hail of gunfire; it peppered his fuselage, making sounds like someone throwing gravel against a metal door. The muffled screams of wounded mountain infantrymen behind him sounded out over the growl of the engines. As the old airlift pilot banked hard to his left, turning into the wind, the Ju-52 transport turned belly up to the southern hill making a great black cross in the sky; its ninety-six foot wingspan now an inviting target to the machine gunners hidden in the terrain below.

With less than a quarter mile to touchdown, the colonel rolled out of his turn and cut the throttles back, descending rapidly. The tracers arced gracefully overhead, searching for their next target. The colonel glanced away from his landing for an instant,

long enough to see the train of transport aircraft following his lead, reaching out to sea as far as the eye could see. With a jarring shock the main landing gear touched down on the dirt runway. The colonel exhaled his relief and turned the battered transport to the west, making way for his wingman landing just behind him. As he rolled to a short stop, the infantrymen seated behind him tumbled out the open cargo door. They ran headlong toward the line of grey helmets just visible above the ground at the airfields edge. Waving a ‘thumbs up’ sign as they ran, he saw the first artillery rounds impact just beyond the perimeter, at the approach end of the runway.¹

The colonel felt sick. If his crew had it this bad today, he could only imagine what the initial assault force endured the day prior. He shook off the thoughts of losses and casualties as he readied the aircraft for takeoff. Before departing he had ordered his men to, “land at all costs.”² He knew they would not fail. Nodding as he squinted into the afternoon sun, the colonel saw his wingman now making the final approach to land. Tracers chewed at the lumbering aircraft’s tail. A shell burst close enough to feel the concussion; instinctively, the colonel winced. When he opened his eyes, the aircraft was gone. Short of the runway, a black-smoked fire raged. He never even heard the explosion.

The Battle of Crete began with the first and last division-sized German airdrop of parachute and glider infantry into a contested environment during World War II; it culminated in a massive airlift relief operation with far-reaching strategic aftereffects for

¹Walter Ansel, *Hitler and the Middle Sea* (Durham, NC: Duke University Press, 1972), 321.

²D. W. Pissin, Numbered USAF Study 162, “The Battle of Crete” (Air Force Historical Research Agency, Maxwell AFB, AL, 1956), <http://www.afhra.af.mil/studies/numberedusafhistoricalstudies151-200.asp> (accessed 4 October 2013), 208.

the Germans and Allies alike.³ As such, the Battle of Crete is a well-researched and documented campaign which set the tone for airborne operations during the war and canonized several of the tenants of forced entry operations still used today. Operation *Merkur* [Mercury] is a captivating study in what can go wrong during the planning and execution of a forced entry operation – in this case, nearly everything.⁴ The *Luftwaffe*'s lack of accurate intelligence on enemy forces, lack of adequate preparation of the battlefield, lack of synergy and mass all affected the outcome of the battle. Thus Crete provides an excellent case study for the tenets of forced entry operations.

Though the largest to date, Operation *Merkur* was not the first airborne operation of World War II. The Germans airlifted paratroopers in the opening of the Polish campaign in September 1939, and assaulted into Norway and Denmark seven months later. They dropped into Holland, seized Belgian bridges, and the massive Fortress Eben Emael using paratroopers and glider-borne infantry as part of the attack on France and the Low Countries in May 1940. They nearly secured the bridge across the Corinth Canal in Greece in April 1941, but the Allies blew the span before the Germans could complete its capture.⁵ For the first two years of the war, the soldiers and aircrew of the German *Flieger* [Air] division enjoyed ample planning and training timelines, lavish (by German *Wehrmacht* standards) food and accommodations, and synergistic training opportunities

³Gordon Rottman, *WWII Airborne Infantry Tactics* (Oxford: Osprey Publishing, 2006), 32.

⁴Peter Antill, *Crete 1941: Germany's Lightning Airborne Assault* (Oxford: Osprey Publishing, 2005), 7.

⁵Rottman, 14.

blending infantry tactics and air assault operations.⁶ More importantly, they did not simply win victories; they dominated their enemies, often suffering few casualties.⁷ Reliant on air superiority, coordinated attacks and rapid reinforcement, the German *Fallschirmjäger* [parachute infantry] record of daring and success did not go unnoticed by militaries around the world, particularly in the United States.⁸

Operation Merkur marked a turning point for many reasons. Its completion simultaneously sealed the fate of the German airborne divisions and solidified the American and British commitments to the concept of airborne forced entry operations. These Allied nations set about expanding their fledgling airborne forces, using the German *Flieger* division as a template and copying its composition, tactics, and methods of employment.⁹ Barely three years after the German execution of Operation Merkur, the Allies landed elements of three divisions in Normandy as part of Operation Overlord; they repeated the same feat in September 1944 during Operation Market-Garden, this time with an even larger force.¹⁰ Undoubtedly the Allies learned a thing or two from observing their Axis counterparts. But while the Allies invested heavily in the German concept of airborne operations and even copied their structure and tactics, they likewise

⁶US War Department, Military Intelligence Division, Special Series Number 7, *Enemy Airborne Forces* (Washington, DC: Government Printing Office, 1942), 24.

⁷Maurice Tugwell, *Airborne to Battle* (London: William Kimber, 1971), 33.

⁸Department of the Army, DA PAM 20-232, *Airborne Operations, A German Appraisal* (Washington, DC: Government Printing Office, 1951), 2-3.

⁹Bruce Quarrie, *German Airborne Divisions* (Oxford: Osprey Publishing, 2004), 88; Tom Clancy, *Airborne* (New York, NY: Berkley Publishing, 1997), 58.

¹⁰Rottman, 42-43.

failed to fully understand the employment of airlift and airborne forces during the Battle of Crete. Operation Merkur thus represents both a historical turning point in the employment of parachute infantry forces, as well as the evolution of forced entry operations still relevant to modern militaries today.

As in any campaign history, the study of Operation Merkur reveals that across hundreds of compiled historical narratives originating from multiple participant nations, detailed accounts contain discrepancies and peculiarities. Researchers will note that participants in the battle recorded their account based on different time zones, for example recording events using London time, versus Berlin time, versus local time in Crete.¹¹ Depending on the source, many place names also differ throughout the years, as authors used Greek, English, or Minoan naming conventions for geographic places.¹² Additionally, readers must understand that tactical doctrine evolves over time. Across more than 70 years of employment, airborne forces and their naming conventions for tactics and terminology vary greatly; understanding the conventional names for specific tactics, techniques or employment is required in order to understand fully the terms used in the research, the planning, and the execution of Operation Merkur.

¹¹While accounting for some discrepancies in research, the fact remains that the 20 May 1941 assault on Crete began with VIII *Fliegerkorps* bombing and strafing attacks at first light, and lasted about one hour before the arrival of the first wave of *Fallschirmjäger* (at 0715 or 0815 depending on the source). The time is only a detail; most critical is the integration of air assets and the timing between raids. No evidence exists that the perceived discrepancy in any way affected the precession of the attacks or the outcome of the battle, but it is noteworthy nonetheless.

¹²This research used a more Western convention, choosing Chania over *Caena*, Rethymnon over *Rethymno*, Heraklion over *Iraklion*, and Suda over *Souda*.

To understand the conduct and outcome of the Battle of Crete, researchers should endeavor to obtain objective, accurate, first-person accounts and reports to provide a baseline for analysis. Several outstanding original sources assist in the research and development of a complete picture of the German assault and Allied defense of the island. The original *Luftwaffe* documents, including the *Combat Report of the XI Fliegerkorps*, dated 11 June 1941, and the *Report of the Operations Branch, Luftflotte IV*, dated 28 November 1941, still exist and inform several postwar analyses of the German operations on Crete. Though the smaller unit reports of the 7th *Flieger* division, the *Luftlande Sturm Regiment* [Air-Landing Storm Regiment] and their subordinate units were destroyed or lost during the war, several postwar studies authored by participants are available through the US Air Force Historical Research Agency at Maxwell AFB, Alabama. Among these, Study 162, *The Battle of Crete* (1956) by D. W. Pissin and Study 167, *German Airlift Operations* (1961) by Fritz Morzik offer first-hand accounts authored by *Luftwaffe* officers—one a *Fallschirmjäger*, and one an airlift pilot. These studies detail the German preparation for and execution of the Battle of Crete, as well as the composition and training of the German airlift crews and *Fallschirmjäger*. Furthermore, several commanders wrote on their roles in the Battle of Crete, though often through a somewhat jaded postwar lens. Though not used extensively in this research, Julius Ringel, the commander of the 5th *Gebirgsdivision* [Mountain division] which airlifted to Crete to reinforce the *Fallschirmjäger* of the 7th *Flieger*, wrote *The Capture of Crete* (May 1941) for the US Army in 1945 and provided insight on the ensuing reinforcement, battle, surrender, and occupation of Crete. Baron von der Heydte, a German battalion

commander during the assault, authored a complete first hand narrative of the attack titled *Daedalus Returned* in 1958.

Several noteworthy items in the German research are worth mentioning. Among the most important discrepancies in early postwar German narratives is the determination that the Allied force defending Crete received advanced warning of the coming attack, the German force composition, and their targets for 20 May 1941. Every suspected leak, from waiters-turned-spies in the restaurants surrounding the German headquarters in Athens, to picket fishing boats north of Crete equipped with wireless radios is offered to explain the Allied response and defensive success early on in the fighting. German and Allied authors alike make no mention of the closest-guarded secret the Allies possessed—ULTRA. That the Allied code breakers read the daily *Luftwaffe* message traffic never occurred to German commanders. During the mid-1970s ULTRA's secret was officially declassified; all material published before this time is void of a direct mention of ULTRA, though some speculation about where the Allied commanders gleaned their intelligence information is made.

Among the best Allied accounts of the battle is D. M. Davin's *The Official History of New Zealand in the Second World War*, used as a reference source for many Allied histories of the battle, as well as the majority of the research completed after the mid-1950s. A useful work for its narrative of the Allied effort to secure and defend Crete following the fall of Greece, Davin additionally provides detailed terrain charts depicting Allied positions which are among the best yet compiled. Davin's narrative supplants another detailed Allied report of the action on Crete, Military Intelligence Division Report 370.03, *The Air-borne Invasion of Crete*, released to the US War Department in

September 1941 as a reprinted version of the Military Attaché Cairo Report Number 1987 of that same year. By the winter of 1941, the attaché's report and the subsequent US War Department document made it into the hands of US Army Major General William Lee, the man commonly recognized as the father of the US Army Airborne. The report subsequently warrants examination as it provided the blueprint for his establishment and expansion of the American 82d and 101st Airborne Divisions during 1942. The American Army Field Manuals and intelligence reports of the same year require examination for the same reason, particularly the War Department FM 31-30, *Tactics and Techniques of the Air-borne Troops*, and the postwar German-authored Department of the Army Pamphlet 20-232, *Airborne Operations: A German Appraisal*, written by German commanders as an after action synopsis of airborne actions during the war.

Several narratives and examinations of the Battle of Crete appeared between the 1950s and the 1990s; many particularly focus on the Allies, as their documentation is most prevalent in English. The most useful Allied-focused narratives of this timeframe are *Crete: The Battle and the Resistance* by Anthony Beevor and *Operation Mercury* by John Sadler. Beevor's publication provides the entire narrative of Allied messages between commanders on Crete and in Cairo, with details of the pending German attack derived from ULTRA intercepts included. Particular to the Australian and New Zealander role in the battle is Albert Palazzo's *Battle of Crete*. Another interesting account is written by G. C. Kiriakopoulos, *Ten Days to Destiny*, which focuses on the Greek participants as well as the Allies. For the most complete German focused account of Operation Merkur, Walter Ansel's *Hitler and the Middle Sea* explains in great detail the genesis of the campaign from the German point of view, beginning in October of 1940

after the high tide of the Battle of Britain, and ending with the invasion of Russia.

Perhaps the most complete, most influential, and most neutral work on the Battle of Crete is Callum MacDonald's *The Lost Battle: Crete 1941*. First published in 1993, this work is the latest of the superb narratives that cater to no particular affiliation, branch or context.

Research into these texts reveals that the Germans constructed an original, resource-limited plan in a time-restricted environment for Operation Merkur; though victorious, the plan went horribly awry. Previous case studies of this battle lament the meddling German leadership at higher echelons for the tragedy that accompanied the victory on Crete; they focus on every subject from general officers killed in the assault, to lack of adequate artillery, to lack of resupply, to lack of coordinated close air support in search of reasoning behind the German shortfalls. Parallel operations such as Operation Barbarossa undoubtedly restricted the available resources and timeline for Operation Merkur. In spite of the shortfalls, superior leadership among the XI *Fliegerkorps* [Air Corps] engaged in combat on Crete led to the modification of plans during execution, perhaps the singular event which saved the outcome of this operation.¹³ The modern study of this battle should therefore not dwell on leadership, but instead examine planning, particularly planning and execution within the German *Luftwaffe*. How did past success influence German planning? Knowing what the Germans knew, was the assault feasible as planned? How did the Germans rescue victory from the jaws of defeat? What lessons does the reversal of fortunes, and subsequent German victory, provide for forced entry operation planning in the future?

¹³Department of the Army, DA PAM 20-232, 19-20.

Often in battle a turning point presents the opportunity for victory to one side, and denies it to the other; the investigation of the Battle of Crete since the end of May 1941 focuses on that turning point. In the case of Operation Merkur, no brilliant tactical maneuver tipped the scales against the Allied defenders; neither the German mastery of maneuver warfare nor daring leadership won the battle. Instead, an attempt to solidify positions in the darkness brought about a swift and catastrophic outcome for the opposing Allied forces. Their disastrous late-night withdrawal from Hill 107 allowed the Germans to gain control of key terrain overlooking Maleme airfield on the evening of 20 May 1941.¹⁴ This single act set in motion the entire Allied defeat on Crete. The Germans capitalized on the opportunity and rapidly reinforced their paratroopers by airlifting reinforcements to the now-secure airfield beginning at dawn the following day. But more important than the narrative of the battle, the lessons learned from this single act are undeniable: seizing and expanding a lodgment to begin the rapid buildup of combat power is the focus of any forced entry operation.¹⁵ In a resource-limited environment, accomplishing this task enables a successful follow-on force projection and resupply operation. At Maleme airfield on the northwest coast of Crete it turned the tide for the Germans, but only after they changed tactics to reinforce a single lodgment via airlift; any investigation of the battle must therefore inquire as to why such was not the German objective from the onset of planning. Furthermore, if the Germans identified airfields as the main objectives for the operation, is it reasonable to assume that the Allied defenders came to the same conclusions?

¹⁴Antill, 58-59.

¹⁵Department of the Army, DA PAM 20-232, 5.

Through their own admission, the success of the German airborne operations during the first two years of the war influenced the *Luftwaffe*'s outlook on the capture of Crete.¹⁶ Never in history had a division-sized force attempted an operation as large as the capture of an entire island by airborne assault. While the debate over the feasibility of their operation shows merit, one must dig deeper to discover the true nature of German hubris, and more importantly, to expose that of modern-day forced entry planning as well. Throughout their previous experience, the *Luftwaffe* employed paratroopers in company and battalion-sized echelons to capture small objectives like bridges, forts, and airfields, and hold them long enough to allow for ground reinforcement.¹⁷ As such, the German paratrooper grew accustomed to fighting in small units, isolated, often surrounded and out-gunned, holding on until the German army broke through in relief. But on the island of Crete, no panzer division came to the rescue. Instead, German leadership applied previously-successful tactics to the objectives on Crete; the result nearly destroyed the parachute troops entirely. Only a mistaken Allied withdrawal and the subsequent German airlift reinforcement saved the *Fallschirmjäger* from defeat. The pyrrhic Axis victory was not caused by rushed planning or failed leadership; instead, it was airlift forces that first endangered, and then subsequently saved the German operation. Had the *Luftwaffe* employed its airlift forces at the Battle of Crete to exploit mass and synergy, the resulting overwhelming force might have drastically changed the

¹⁶John Galvin, *Air Assault: The Development of Air Mobile Warfare* (New York, NY: Hawthorn Books, 1969), 46-47.

¹⁷Rottman, 14.

conduct of this battle, the influential outcomes of which still affect forced entry operations today.

CHAPTER 2

THE GENESIS OF VERTICAL ENVELOPMENT

Transporting soldiers in aircraft to engage in battle is by no means a new concept. Theorists from Benjamin Franklin to Napoleon Bonaparte to Brigadier General Billy Mitchell espoused the merits of such operations in their writings, going so far as to debate the feasibility, advantages, and disadvantages of employing airborne infantry forces in battle.¹⁸ Though maneuver warfare dominated the conduct of campaigns for centuries, a lack of capable technology hindered the exposure of the “vertical flank” until the First World War. Almost as soon as airmen took to the skies to battle for superiority over the trenches, theorists and thinkers alike began developing a concept of “vertical envelopment” to exploit this vulnerability. After early experimentation over the battlefields of Mesopotamia and Italy in 1916, the following year saw aircraft routinely resupplying Western Front troops in Europe with ammunition.¹⁹ At least one man thought larger. General Billy Mitchell brought the idea for a massed drop of American 1st Division infantrymen via British Handley-Paige bombers behind German lines at Metz to his superior, General ‘Blackjack’ Pershing in the spring of 1918. Confident in his own ability to mass enough airpower to insert at least 12,000 parachutists and 240 machine guns behind enemy lines, Pershing authorized initial planning for the

¹⁸Barry Gregory, *Airborne Warfare 1918-1945* (New York, NY: Phoebus Publishing, 1979), 8-12.

¹⁹*Ibid.*, 11.

operation.²⁰ Though the operation was delayed a year and ultimately cancelled, the idea persisted.²¹

Throughout the inter-war period, the armies and air forces of several nations struggled to adapt to the advance of technology. The concepts pioneered by Mitchell manifested across the globe as military leadership sought to avoid the stalemate and slaughter of trench warfare. The Italian Air Force, under the leadership and influence of its own strategist General Giulio Douhet, experimented with parachutes and resupply operations from North Africa to Italy to the North Pole between 1927 and 1929.²² In 1928 the US Army first tested the air transport and insertion of small groups of paratroopers and equipment, but did not rapidly expand the concept as did other nations. The first Red Army maneuvers including parachute troops occurred in 1930. By 1935, German observers watched as two Russian parachute battalions dropped into a Kiev airfield and held their lodgment against simulated attack; sixteen artillery pieces and hundreds more ground troops then arrived by transport aircraft to the “captured” field. The following year the Russians dropped an entire division of 5,000 soldiers.²³ In 1937, the US Army finally acknowledged these developments, and included “airborne warfare”

²⁰Galvin, 2-3.

²¹Michael Hickey, *Out of the Sky: A History of Airborne Warfare* (New York, NY: Charles Scribner’s Sons, 1979), 13.

²²Galvin, 4.

²³*Ibid.*, 4-5.

in its theoretical tactical instruction at the Command and General Staff School at Fort Leavenworth, Kansas for the first time.²⁴

The stage was set for the expanded development and employment of airborne forces during the coming world war. After the close of the Kiev maneuvers in 1936, the German *Luftwaffe* sought to expand its capability with the addition of parachute infantry forces. The Germans placed an airman at the head of these formations, simplifying the often paralyzing struggles over resources and command and control. *Generalmajor* (equivalent to Brigadier General) Kurt Student, an ace fighter pilot during World War I, survived the war to serve in the miniscule Weimar armed forces of the interwar period.²⁵ During the mid-1930's, Student oversaw the research and development of parachutes, and in 1935 he began developmental work with several aircraft and engine manufactures working for the fledgling *Luftwaffe*. He received command of a small parachute-trained cadre of infantrymen in June of 1938, slowly expanding it into the 7th *Flieger* division.²⁶ Initially, Student struggled to define roles for his new command other than clandestine sabotage and infiltration in support of attacks by larger German *Heeres* (Army) forces. "Our first problem is to decide what we are going to do with these parachutists," Student confided to his aide in the summer of 1938.²⁷ While the high command struggled to

²⁴James Gavin, *Airborne Warfare* (Washington, DC: Infantry Journal Press, 1947), vii.

²⁵John Weeks, *The Airborne Soldier* (Dorset, UK: Blandford Press, 1982), 20-21.

²⁶Anthony Farrar-Hockley, *Student* (New York, NY: Ballantine Books, 1973), 41.

²⁷*Ibid.*, 43.

define the role of the German paratrooper, Student set about expanding the size and scope of the units under his command.

Recalling the maneuvers he himself witnessed near Kiev in 1935, Student expanded parachute training and established schools to increase the number of trained parachutists. Using his extensive connections within the developmental and experimental sectors of the *Luftwaffe*, Student procured new parachutes and set about designing methods for transporting artillery and heavy weapons into combat. He oversaw the deployment of two gliders in support of his forces, the DFS-230, a light troop-carrier capable of carrying a twelve-man squad, and the Gotha 242, a larger aircraft capable of carrying up to twenty-three troops, small artillery pieces or out-sized supplies.²⁸ Perhaps most importantly, Student used his position as the commander of the 7th *Flieger* division to assign Junkers Ju-52 transport aircraft and crews to train and support his newly formed division. This three-engine monoplane was originally designed as a commercial airline transport; pressed into *Luftwaffe* service, it could haul twenty passengers, thirteen parachute troops or two tons of cargo over 800 miles as the primary German airlift aircraft for the coming war.²⁹ Student organized and trained his own airlift transport units, renaming them *Kampfgruppe zur besonderen Verwendung* [Special Duty Bomber Groups] or “KGzbV”, to specifically identify and bolster the reputation of his aircrew.³⁰

²⁸Ibid., 53-54.

²⁹Galvin, 6.

³⁰Quarrie, 89; Roger Edwards, *German Airborne Troops 1936-1945* (New York, NY: Doubleday, 1974), 39.

Training with these aircraft began as soon as 1937; during the following year it expanded at an exponential rate to accommodate the formation of the 7th *Flieger* division.

Student set rigorous physical, intellectual, and psychological standards for the men applying to parachute training. After all, these soldiers would fly through contested airspace and drop behind enemy lines to operate in small detachments, typically surrounded and without resupply or communication. Members of the all-volunteer force required initiative, stamina, and ability.³¹ The *Fallschirmjäger* only took the best, and as the commander of this elite unit Student saw to their designation and provision as a *corps d'elite*. But training in small unit tactics and sabotage merely set the stage; Student had a much larger concept of employment in mind.³² Unlike the Allied forces of later years, the Germans grouped any formation capable of operations through the air under the *Luftwaffe*, rather than using a more traditional army-air force split organization. Thus air defense artillery, transport pilots and parachute troops all wore the *Luftwaffe*-blue tunics.³³ The 7th *Flieger* division concentrated the German parachute infantry units of the *Luftwaffe*, often combining them with the *Luftlandtruppen* [air-landing infantry] and glider infantry of the newly-formed 22d *Luftlande* [Air-Landing] division.³⁴ By the summer of 1938 the parachute-trained troops of the 7th *Flieger* and 22d *Luftlande* divisions were prepared for employment.³⁵ Several battalions air-landed to the

³¹Ibid., 46-47.

³²Ibid., 50.

³³Weeks, 20-21.

³⁴Rottman, 5-6.

³⁵Galvin, 6.

Sudetenland that autumn to secure parts of Czechoslovakia, but only one regiment participated in the invasion of Poland the following fall.³⁶

The success enjoyed by the *Fallschirmjäger* over the first two years of World War II had modest beginnings. Held mostly in reserve during the Polish campaign of September 1939, the subsequent German invasions of Denmark and Norway in April of 1940 at once elated and frustrated the paratroopers. Though only a few battalion-sized elements of the 1st *Fallschirmjäger* Regiment took part in the assault, the results of their employment stunned the high command. By the end of the first day of operations, the parachute and air-landing infantry assisted in the capture of all the major cities of Norway and Denmark.³⁷ Operations in Norway continued through the month, and featured multiple bounding assaults by small parachute infantry forces combined with the air-landing of infantry as well as seaborne landings. The Norwegian army remained almost entirely static, off-balance, and unable to react to the seizure and consolidation of objectives by the parachute troops. In contrast, Ju-52 transports routinely airlifted supplies and troops, landing on airfields, roads, frozen lakes, and even beaches to suddenly appear from a new direction or threaten another position.³⁸ Student, recently promoted to *Generaleutnant* (equivalent to Major General) and observing from afar, saw the Norway campaign as the model for employing his parachute infantry in the future: a near-simultaneous attack on multiple objectives, establishing and expanding multiple lodgments followed by the air-landing of resupply and reinforcements to consolidate and

³⁶Rottman, 9.

³⁷Galvin, 10.

³⁸*Ibid.*, 11.

advance.³⁹ Student's division, observant of the assaults to the north, stood ready to execute the first brigade-sized parachute infantry assault of the war.

The war in the west erupted in earnest at dawn on the morning of 10 May 1940; by the time the sun crested the eastern horizon, the Germans controlled the initial objectives of the first large-scale combat employment of parachute infantry and air-landing troops in history. The first brigade-sized assault of the German parachute forces in the Second World War served as the quintessential example for a new breed of combined arms warfare. Student's parachute forces jumped into the Low Countries to seize and hold bridges over three major waterways. Additional formations exited their Ju-52 cargo aircraft overtop several Dutch airfields just as the Dornier, Heinkel and Stuka bombers ahead of them finished bombing runs and turned east. Taking advantage of surprise, speed and air superiority, the German parachutists rapidly seized several airfields near The Hague, enabling the arrival of the follow-on forces of the 22d *Luftlande* Division. The assault secured avenues of advance for the rapid passage of lines of German panzer divisions on their way west and south to engage Allied forces. But the attack did not proceed entirely as planned. Though company-sized elements of German parachutists secured major airfields against token Dutch resistance in the early morning hours, their advance on The Hague stalled. In the early afternoon the reinforced Dutch troops counter-attacked the understrength German pockets at several airfields, driving the invaders from their positions and forcing dozens of Ju-52s carrying 22d *Luftlande* air-landed infantry reinforcements to find adjacent beaches, highways and farmers' fields to

³⁹Ibid., 13.

offload their human cargo.⁴⁰ The Hague held out; Student decided to bypass the area, ordering all forces to advance on Rotterdam instead. The German 9th Panzer division broke through the following day; when the Dutch turned to regroup, they found German troops in possession of all bridges across the main water obstacles. The next day the Germans took possession of the city and by 14 May 1940, the battle for The Hague ended with the Dutch surrender.⁴¹

Some 4,000 paratroopers took part in the German assault into the Low Countries in May of 1940, not including the additional division of air-landing troops which followed and reinforced their successes. When properly synchronized with airpower and ground assaults, the paratroopers proved a valuable addition to the overall plan to rapidly seize territory. Often overlooked in the examination of such fast-paced actions are the casualty figures among the transport units airlifting these units into combat; while operating in Norway, the Germans lost some 170 Ju-52s from their fleet of 600. Few losses resulted from enemy action and most came about due to poor weather or accidents upon landing.⁴² Assaulting into Belgium and Holland increased the cost significantly. Commander of the *Luftwaffe*'s transportation fleet for the assault, *Oberst* [Colonel] Fritz Morzik, lost some 280 of his 430 Ju-52s in the first day of the attack alone. Operations into a contested environment required more than just air superiority, surprise, and mass to ensure success; close air support to airborne forces and air-landing operations was of

⁴⁰Galvin, 18-19.

⁴¹E. H. Brongers, *The Battle for the Hague* (Soesterberg, The Netherlands: Uitgeverji Aspekt, 2004), 265-266.

⁴²Galvin, 13.

equal value in order to protect against losing the bulk of the unarmed transport fleet.⁴³ Regardless, so long as they received quick reinforcement, the paratroopers of Student's 7th *Flieger* division demonstrated their ability to seize and hold key terrain and decisive points until ground units fought their way forward.⁴⁴ Student's subsequent analysis showed that integrated mission planning, intelligence preparation, speed, surprise, and close air support were the essential elements of the operation. When combined, they set conditions for a successful assault; if neglected, the shortfall of these requirements inevitably invites disaster.

⁴³Brongers, 269.

⁴⁴Galvin, 20.

CHAPTER 3

FORMULATING OPERATION MERKUR

The conclusion of operations in Western Europe ushered in a time of relative calm for the German *Fallschirmjäger* and their leadership. Six months of planning and fighting filled them with confidence, justified their methods and validated their tactics; little did they know disaster waited in the Mediterranean theater. Though some planning occurred for future operations, it was not until December 1940 that Student and his staff discussed additional missions for the parachute forces.⁴⁵ Once Hitler authorized the invasion of Greece, Student began preliminary planning for his next operation. Student received orders to plan for several operations, including the assaults of Crete and Malta, to secure the southern flank of the coming German invasion of Russia in the summer of 1941.⁴⁶ Seizing Crete would not only secure the southern flank of Operation Barbarossa, but also remove the threat of Allied air attack launched from the island against the Axis-held oil fields in Romania. Furthermore, Crete provided a base of operations to complete an Axis conquest of the Mediterranean. Thus the combined arms attack of the German 12th Army Group and *Luftflotte* [Air Fleet] IV into Yugoslavia and Greece in April 1941 sealed the fate of Crete.⁴⁷ Capture of the island marked a sufficient bookend to the

⁴⁵Farrar-Hockley, 77-79. General Student, terribly wounded by a sniper on 14 May 1940 while entering Rotterdam, and did not return to work until September 1940. The bullet tore into the right side of his head, leaving him unconscious, near death, and unable to speak for months; he suffered from slowed speech for the rest of his life. Farrar-Hockley, 75-77.

⁴⁶*Ibid.*, 80.

⁴⁷Ansel, 102-103. This was the second German intervention to bolster their Italian allies. German intervention on behalf of the Italians in North Africa (Libya) began in the

Balkan campaign, with more than enough time available to shift forces and resources north and east to support Barbarossa. Without adequate sea control and in light of the pending Russian invasion, the Germans relied entirely on the *Luftwaffe* to project power beyond the Greek mainland into the Aegean Sea. The Royal Navy still controlled the sea lanes, so the *Luftwaffe* would comprise the strike force for objectives south of the mainland. Once secured, subsequent operations from the island of Crete promised countless potential objectives; Malta, Cyprus, Iraq, Syria, the Suez Canal and British bases in Alexandria, Egypt all fell within range of *Generaloberst* [Senior General] Alexander Löhr's *Luftflotte IV* bombers.⁴⁸

To that end, the one-time commander of the 7th *Flieger* Division and father of the air-landing concept, now '*General der Flieger*' (General of the Fliers, equivalent to Lieutenant General) Kurt Student proposed his plans for the invasion of Crete to *Luftwaffe* Chief of Staff *General der Flieger* Hans Jeschonnek on 15 April 1941.⁴⁹ Realizing the obviousness of the proposed operation, and simultaneously considering the need for the *Luftwaffe* to recover from the recent black eye it suffered by failing to bring Britain to its knees in the Battle of Britain, Jeschonnek quickly forwarded the proposal to *Reichsmarschall* Hermann Goering, the *Luftwaffe*'s commander.⁵⁰ As 12th Army Group

early winter of 1941. When *Generaleutnant* Erwin Rommel arrived in Tripoli in February of 1941 to establish the German *Afrikakorps*, he found the Italians demoralized and ready to abandon the continent following their defeat by British forces during Operation Compass. Ansel, 102-103.

⁴⁸Pissin, 2.

⁴⁹Charles Whiting, *Hunters from the Sky* (London: Leo Cooper Publishing, 1974), 46.

⁵⁰*Ibid.*

continued the push south through Greece and Student's paratroopers prepared to seize the bridge across the Corinth Canal, Goering forwarded the request to Hitler on 20 April 1941. The following day Goering, Student, and Jeschonnek briefed *Feldmarschall* [Field Marshal] Keitel, General Jodl, and Hitler himself.⁵¹ The conference found the *Führer* receptive to Student's proposal.⁵² Hitler nonetheless cautioned Student about relying entirely on the parachute and glider troops to seize the whole island.⁵³ The XI *Fliegerkorps* commander received orders on 25 April 1941 for the attack on Crete, with a planned execution three weeks later.⁵⁴ Operation Barbarossa was already a month in delay, so the conclusion of Operation Merkur could not come fast enough.

Führer Direktive 28 authorized Operation Merkur and delegated the task to the commander of the *Luftwaffe* for execution; Goering assigned Löhr to command the assault. *Luftwaffe* high command then issued directives to *Luftflotte IV* on 1 May 1941 which assigned units to the operation and listed tasks for completion. Operational

⁵¹John Sadler, *Operation MERCURY* (South Yorkshire: Pen and Sword Books, 2007), 44.

⁵²Callum MacDonald, *The Lost Battle: Crete 1941* (London: Macmillan, 1993), 60. Both Keitel and Jodl initially rejected the plan to capture Crete using air-landing forces, in preference to a pre-approved plan to assault Malta, known as Operation *Herkules* [Hercules]. Hitler overruled his generals in this case. Malta was directly related to the North African Campaign, and thus a sideshow. Crete was directly related to Barbarossa, thus peaking Hitler's interest and garnering his support. Hitler was further interested in covering the build-up of Barbarossa, therefore using Crete as an additional deception operation against both the British and Russians. MacDonald, 60-61.

⁵³Whiting, 47. Hitler insisted some troops and heavy equipment would land via seaborne assault or reinforcement.

⁵⁴MacDonald, 61. Hitler warned Student: "In the interests of other operations the attack should take place as soon as possible. Every day earlier is a profit; every day later is a loss."

planning was assigned to *Luftflotte IV*, and then further delegated to Student.⁵⁵ To preserve resources for the coming attack into Russia, the order required that Student only use the troops under his own XI *Fliegerkorps* with support from the fighters and bombers of VIII *Fliegerkorps* commanded by *General der Flieger* Wolfram Freiherr von Richthofen. The army and navy would support with troops and coordination for seaborne landings as required, but troop movements could not interfere with the buildup of forces for Operation Barbarossa.⁵⁶ Student, elated, immediately returned to Berlin to begin operations planning. His first requirements included moving his command to Greece and assembling supporting units. Paratroopers, air-landing infantry, fleets of aircraft and gliders, supplies and support personnel all moved south to Athens, Greece and the airfields surrounding the ancient city.

Student's XI *Fliegerkorps* was unlike any other *Luftwaffe* organization. Expanded after the stunning victories in Norway and Western Europe, Student's airmen saw themselves as a self-sustaining rapid-deployment force for the *Luftwaffe*, ready and able to strike at a moment's notice once Goering gave the word. This merely added to the oddness of their existence within the German military, as elite infantry units not assigned to the ground forces (*Heeres* or *Schutzstaffel*—the SS). Though led by veterans of many campaigns, their rapid expansion meant experience levels generally waned compared to the rest of the *Wehrmacht* headed for Russia.⁵⁷ They spent the months since their triumphs in Western Europe awaiting the order to assault into England; the order never

⁵⁵Ansel, 208-209.

⁵⁶MacDonald, 62.

⁵⁷Pissin, 45.

came. The XI *Fliegerkorps* consisted of one division of *Fallschirmjäger* (the 7th *Flieger*), and one of air-landing infantry (the 22d *Luftlande*) trained to rapidly offload from aircraft and enter straight into ground combat. Three wings of aircraft augmented the combat soldiers of the XI *Fliegerkorps*, providing over 500 reliable Ju-52 tri-motor transports and more than seventy DFS-230 gliders.⁵⁸

As the 7th *Flieger* division started a two-week journey south from bases in Germany, they encountered heavy northbound road and rail traffic moving toward Russia; the entire division did not arrive in-country until 13 May 1941.⁵⁹ *Generaleutnant* Wilhelm Süßmann, a bomber pilot by trade, now commanded Student's old division consisting of three regiments (1st, 2d and 3d *Fallschirmjäger*) of three battalions each, plus light artillery, anti-tank, reconnaissance and support personnel.⁶⁰ An additional over-strength regiment of glider-and-parachute infantry known as the *Luftlandsturm Regiment* (LLStR), or Storm Regiment augmented the 7th *Flieger*, bringing its total strength to just over 11,000 personnel.⁶¹

Unfortunately for Student, his well-trained air-landing infantry division, the 22d *Luftlande*, was deployed on an errand for *Oberkommando der Wehrmacht* (OKW) [German High Command]. Sent to the Romanian oil fields at Ploesti as an occupation and security force, this division of more than 16,000 sat idle during the Operation

⁵⁸Quarrie, 60-62.

⁵⁹Baron von der Heydte, *Daedalus Returned: Crete 1941* (London: Hutchinson, 1958), 34-39.

⁶⁰Quarrie, 58.

⁶¹*Ibid.*, 63.

Merkur, ironically due to lack of transport.⁶² Despite the directive ordering Student to only use his own XI *Fliegerkorps* for operations against Crete, he was unable to secure transport south for his entire corps due to the airlift and rail requirements for Operation Barbarossa. Twelfth Army Group furnished one division of replacement infantry to Student as OKW believed one infantry division was as good as another.⁶³ As replacement infantry Student received the 5th *Gebirgsdivision* [Mountain Division], a 14,000 man force of *Gebirgsjäger* [mountain infantrymen] from Austria commanded by *Generalmajor* Julius Ringel. Pulled from the line in Greece before the fighting concluded, few in Ringel's three regiments had ever flown in a plane, much less assaulted a contested airfield after disembarking from one.⁶⁴

In typical *Luftwaffe* force organization, supporting flying units (airlift squadrons) are subordinated to the highest command level required for the operation; in this case, to XI *Fliegerkorps*. Though this standard arrangement produced excellent and responsive tactical airlift results, it revealed shortcomings in large-scale operations, where maintenance, logistics, and supply require centralized higher headquarters control of assets in order to maximize efficiency.⁶⁵ Such shortsighted organization caused significant anxiety to General Student as the majority of his transport fleet returned to

⁶²Ibid., 27.

⁶³Pissin, 14.

⁶⁴Ibid., 42.

⁶⁵D. Fritz Morzik, Numbered Air Force Study 167, "German Air Force Airlift Operations" (Air Force Historical Research Agency, Maxwell AFB, AL, 1961), <http://www.afhra.af.mil/studies/numberedusafhistoricalstudies151-200.asp> (accessed 4 October 2013), 323-324.

Germany on 1 May for required refitting following the campaign in Greece. Not until 14 May did the transports return to staging bases around Athens, a feat that required two weeks of day and night maintenance work at home station to accomplish.⁶⁶

Student's deputy for air transportation, *Generalmajor* Gerhard Conrad, oversaw the XI *Fliegerkorps*' three wings of Ju-52 transport aircraft and DFS-230 gliders. When Student and Conrad left Berlin for Athens on 7 May 1941 (prior to the fleet's return), they found nearly all hard-surfaced airfields in southern Greece occupied by the fighters, bombers and attack aircraft of General von Richthofen's VIII *Fliegerkorps*.⁶⁷ Understandably, the fighters and bombers supporting Operation Merkur required rapid rearming and refueling, thus forcing the transports to operate elsewhere. Conrad worked to find suitable fields for his fleet around Athens, while Student sought to extricate the next thorn from his side: von Richthofen.⁶⁸

Assigned to support Student's forces with his VIII *Fliegerkorps*, General Wolfram von Richthofen (cousin to the famed Red Baron of World War I) was an experienced aviator and pioneer of the *Luftwaffe*'s model of close air support to ground forces. Von Richthofen commanded a powerful tactical air force comprised of 280

⁶⁶Pissin, 49.

⁶⁷MacDonald, 68.

⁶⁸Pissin, 48. The three airlift wings eventually arrived at below-standard dirt and grass surfaced secondary airfields surrounding Athens upon their return to Greece on 14 May 1941. The 1st Wing under Colonels Morzik and Wilke landed at Dadion, Megara and Corinth; the 2d Wing under Colonel von Heyking at Topolia Lake; the 3d Wing under Colonel Buchholz at Tanagra. More information about these assigned airfields is presented later in this chapter. Quarrie, 62.

bombers, 150 dive bombers, 180 fighters and 40 reconnaissance aircraft.⁶⁹ They were newly arrived in occupied Greece, fresh from months of conquest as the air support to the 12th Army Group sent rampaging through Yugoslavia and Greece in the spring of 1941. Von Richthofen considered the Crete operation a sideshow to the coming Russian invasion, and did not hesitate to voice his opinions to *Luftwaffe* high command.⁷⁰

General Student met his commanding officer, *Generaloberst* Alexander Löhr, and von Richthofen in Athens on the afternoon of 7 May 1941 to flush out details pertaining to the close air support and paratrooper landings on Crete.⁷¹ His staff commandeered the Hotel Grand Bretagne, the site of the former British Army Headquarters prior to their evacuation before the onrush of 12th Army group into Athens; its grand ballroom made an adequate “war room.”⁷² The briefing quickly devolved into a struggle for unity of command. Student first requested that the VIII *Fliegerkorps* be subordinated to his command in order to achieve centralized and unified command.⁷³ Löhr dismissed the idea, stating that he and von Richthofen believed the XI *Fliegerkorps* staff inadequately

⁶⁹Pissin, 50. On 1 May 1941, VIII *Fliegerkorps* reported 280 Ju-88 and Do-17 bombers, 150 Ju-87 dive bombers, 180 Me-109 and Me-110 fighters, and 40 reconnaissance Ju-88, Do-17 and Storch aircraft ready for action.

⁷⁰*Ibid.*, 50-51.

⁷¹MacDonald, 78-79. Beginning 3 May 1941, Von Richthofen’s VIII *Fliegerkorps* initiated preliminary strikes against the Royal Air Force and Royal Navy forces stationed on Crete. Heavy bombing of the island, its defenses, facilities and forces stationed there did not begin in earnest until 14 May 1941. Pissin, 86.

⁷²G. C. Kiriakopoulos, *Ten Days to Destiny* (Brookline, MA: Hellenic College Press, 1997), 35-37.

⁷³*Ibid.*, 39.

sized to handle the detailed planning of integrated operations between two air fleets.⁷⁴ Von Richthofen retained an independent command, with Löhr acting as overall commander at higher headquarters.⁷⁵ Despite lacking unity of command, Student endeavored to establish a viable, integrated working relationship between the two *Fliegerkorps* for the coming invasion.⁷⁶ Unfortunately the confusion over command and control was just beginning.

Student led the discussion of Crete's terrain, airfields and enemy force composition with the assembled leadership. The island of some 3,200 square miles measured 162 miles long; at its widest it measured thirty-five miles, while at its narrowest just seven. Mountains ascending to 8,200 feet above sea level dominated the southern coastline; the northern coastal plain, dotted with olive groves and farmers' fields, offered the best sites for landing his troops.⁷⁷ A single two-lane partially paved road connected the island east to west, with secondary dirt paths scattered towards the mountains. Three airfields stood out on the reconnaissance photographs, highlighted as Student's targets. In the west sat Maleme, a dirt airstrip measuring 3,600 x 1,650 feet and suitable for all types of aircraft. Built at the base of a 107 foot hill which dominated the airfield's southern border and made an ideal defensive position for any Allied forces in the area, Maleme was closest to the Greek mainland. In the middle of the northern coast, Rethymnon airfield was an unfinished 3,300 foot airstrip still under construction. In

⁷⁴Ibid., 39-40.

⁷⁵Ibid., 41.

⁷⁶MacDonald, 68-69.

⁷⁷Pissin, 20.

eastern Crete, furthest from Greece, Heraklion airfield with its two 4,600 foot long landing strips was suitable for bomber operations.⁷⁸ Due to the rapidly rising terrain to the south, the islands' interior supported little more than farming; the rising elevations made ideal defensive terrain.

Since the end of the campaign in Greece, reconnaissance squadrons of the VII *Fliegerkorps* maintained a constant vigil over the island of Crete. Von Richthofen's crews photographed the island and tested Allied defenses daily, while at the same time reconnoitering Royal Navy operations in the coastal waters and around Suda Bay.⁷⁹ Student's own reconnaissance crews began the daily overflight and observance of the target airfields by 7 May, often returning with recurring observations: "The island appeared to be completely dead."⁸⁰ Aerial observation produced an estimated force of Royal Air Force (RAF) fighters between twenty-five and forty planes. Suda Bay remained in operation, with multiple Royal Navy warships sortieing north of Crete and transports arriving on a daily basis. Telltale signs of entrenchments and bunkers dotted airfield perimeters; photographs also revealed artillery emplacements well within direct and indirect fire range of the primary airfields.⁸¹

Admiral Wilhelm Canaris, the OKW intelligence chief, provided planners with a favorable intelligence update. The majority of the troops on the island were assessed to be British and Greek evacuees from Greece, marooned there after a successful escape

⁷⁸Ibid., 24.

⁷⁹Ibid., 28.

⁸⁰Ibid., 30.

⁸¹Ibid.

from the fall of Athens. He estimated that at most, the Allies fielded one artillery and two infantry regiments, poorly armed, poorly supplied, with poor communication and modest anti-aircraft artillery.⁸² Additional estimates from Student's intelligence section indicated these forces numbered no more than 5,000 men, mostly grouped in the west and center of the islands, near the airfields.⁸³ General Bernard Freyburg, a tenacious, well respected New Zealander and veteran of World War I action on the Western Front, commanded the Allied garrison on the island.⁸⁴ Furthermore, Canaris added human intelligence developments to his report, fresh from his agents placed in Greece and Crete prior to the Allied capitulation on the mainland. These elements reported the probability of anti-British popular uprisings on the island once the attack started, with civilians welcoming Axis forces with open arms.⁸⁵

Unbeknownst to Student and the planners, their intelligence estimates fell terribly short in the analysis of Allied resistance. In the rush to evacuate Greece, several thousand Australians and New Zealanders made their way to Crete under Freyburg's command. In total over 14,000 Commonwealth troops landed on the shores of Crete following the fall of Athens, most escaping in intact units with weapons and ammunition. They joined 15,000 British Army infantry and artillery soldiers on the island, reinforced with some 10,000 Greeks. More than 3,000 Royal Navy sailors and Royal Air Force airmen garrisoned the island, defending bases at Suda Bay and the airfields. Student had no way

⁸²Ibid., 30.

⁸³Sadler, 49.

⁸⁴Pissin, 83.

⁸⁵Ibid., 30-31.

of knowing his proposed 25,000-man assault force planned to attack an island garrisoned by over 42,000 Allied defenders.⁸⁶ Reconnaissance efforts thus far revealed no evidence of so large a garrison.⁸⁷ As presented, the gathered intelligence estimates convinced Student that the move on Crete would succeed regardless of any obstacles placed in his way.

Before the conference ended von Richthofen updated the status of Crete's air and sea defenses, as well as the VIII *Fliegerkorps* munitions and fuel stocks. The fighter and bomber units assigned to his command began daily air attacks on the island on 3 May 1941.⁸⁸ In addition to striking troop and artillery concentrations, airfields and parked aircraft, von Richthofen's fliers attacked the British Royal Navy base at Suda Bay mercilessly, often driving the ships from anchor during daylight hours and forcing them into the open ocean. Due to supply and transportation requirements for Barbarossa, the VIII *Fliegerkorps* was terribly short of bombs and fuel, to the point that every munition was not only inventoried prior to each sortie, but each was also specifically weaponized against an individual target as well.⁸⁹ For all the difficulties, von Richthofen felt his fliers could drive the RAF from the island entirely and secure air superiority prior to the invasion date, now set for 18 May 1941.

⁸⁶Ansel, 237. Approximately 6,000 of the British Army total were support troops-servants, logisticians and mechanics-lacking arms or sufficient training in defensive operations or even basic infantry tactics, and thus reducing the effective number of Allied resistance on the island closer to 36,000.

⁸⁷D. M. Davin, *Crete: The Official History of NZ in the Second World War* (London: Department of Printed Books, Imperial War Museum, 1953), 480.

⁸⁸Pissin, 86.

⁸⁹*Ibid.*, 90.

Student then revealed his initial design to the assembled commanders. Based on the intelligence estimates of enemy strength and disposition, Student saw the opportunity to cement his “vertical envelopment” concept in the assault on Crete.⁹⁰ Previous experiences of the 7th *Flieger* in Norway and Holland, as well as lessons learned from the analysis of these campaigns, showed that the keys to this type of operation were speed and surprise. As such, Student planned to airlift the entire 7th *Flieger* division plus the Storm Regiment in an all-out assault upon seven major objectives across the entire northern coast of Crete. Student called his method “oil spot tactics,” a concept which secured several lodgments and reinforced them continually until they ran together.⁹¹ His targets included the three major airfields, the Royal Navy base at Suda Bay, mountain passes linking the northern and southern coasts, road intersections and major towns. The Norwegian campaign and the assault on the Low Countries convinced the general that the operation required a simultaneous assault in several locations, without a single *schwerpunkt* [main effort]. Instead the attackers appeared simultaneously, disorienting and ultimately stagnating enemy forces as in seemingly every direction stood a force of German paratroopers.⁹²

When Student finished, Löhner and von Richthofen appeared skeptical, and each for different reasons. Löhner questioned spreading a division-sized force across a 160-mile front, as well as dividing forces into geographically-separated assault elements. His inquiry continued: Why not assault just one airdrome? Why not seize Maleme, the closest

⁹⁰Sadler, 46.

⁹¹Department of the Army, DA PAM 232, 5.

⁹²Sadler, 47.

airfield to Greece, at the outset of the attack? From there, why not use the VIII *Fliegerkorps* to support the single lodgment, and wait to attack until the 5th *Gebirgsdivision* ferried across the sea to join the fight?⁹³ For his part, von Richthofen remained unconvinced that the assembled *Fliegerkorps*' could support airlifting the entire 7th *Flieger* division to so many objectives and simultaneously provide close air support; the notion invited disaster as it spread the units too thin across the island. Furthermore, the 502 Ju-52 transports slated to support the assault could only drop just over 6,000 paratroopers in a single wave.⁹⁴ The assault as envisioned by General Student was impossible. Von Richthofen thus convinced Löhr to curtail the assault before it devolved into slaughter. As the meeting adjourned, Löhr ordered Student to limit his objectives, concentrate on airfields and continue to plan for execution on 18 May.

Mission planning continued in the Athens hotel ballroom for the next week. With the arrival of the entire VIII and XI *Fliegerkorps* as well as all supporting units for Operation Merkur in Athens by 14 May, final planning and logistics preparation began.⁹⁵ The effort encountered significant difficulties. Due to the operational requirements of the pending attack on Russia, *Luftwaffe* support to Operation Merkur suffered. Not only did the overall commander (Löhr) consider Crete a sideshow, but *Luftwaffe* high command clearly did as well. In order to prepare airfields and command and control for the rapid

⁹³Ibid., 46.

⁹⁴MacDonald, 70. This constituted about half the overall transport aircraft fleet of the *Luftwaffe*. No additional resources were available as the airlift forces were also supporting operations in North Africa, as well as the build-up for Operation Barbarossa.

⁹⁵Pissin, 50. The 502 Ju-52 transport aircraft bedded down at five different airfields surrounding the capitol; a task which proved monumental.

shift to the Russian theater, *Luftflotte IV* sent its qualified airfield commanders north in early May 1941. With no local commanders to organize airfield operations in the area around Athens, control, maintenance, and supply systems suffered; ad hoc was the name of the game.⁹⁶ Von Richthofen's VIII *Fliegerkorps* already secured all hard-surfaced, modern airfields in the vicinity of Athens, leaving the transport units to use secondary and emergency fields for their operations. The majority of these were located far outside the city, and consisted of little more than flattened dirt airstrips covered in sandy Greek soil. Many Ju-52s sank to their wheel hubs in sand once they came to a stop.⁹⁷ One group (under *Oberst* Von Heyking) even bedded down its three squadrons on a dry lakebed near Topolia, some fifty miles from Athens. The primitive fields lacked all normal base organization, supply, fuel, tow tugs, and maintenance equipment; the entire operation was built from scratch. The XI *Fliegerkorps* report stated that, "Ground organization and supply services were not ready for operations. There were neither Group HQ nor airfield organizations nor supply establishments," when the transport units arrived in Greece.⁹⁸ The lack of support from von Richthofen angered Student, who quickly requested assistance from higher headquarters; Löhr refused, using the Barbarossa as his excuse. Student subsequently pressed British POWs and Greek laborers into service towing aircraft and maintenance equipment with rope teams, levelling ground for taxiways, and constructing airfield defenses with hand tools. VIII and XI *Fliegerkorps* leadership was not manned or trained to run airfields. Instead they placed several *Luftwaffe* reservists in

⁹⁶Ibid., 62.

⁹⁷Ibid.

⁹⁸MacDonald, 74.

charge and hoped for the best. The shoestring budget for Operation Merkur slowly took its toll.⁹⁹

The severity of this resource shortfall did not present itself until the arrival of the transport squadrons on 14 May 1941. As the large transports started landing at several of the airfields, a fine yellow-brown Greek dust quickly rose into the sky, carried aloft by the wind-milling Ju-52 propellers to an altitude of 3,000 feet in some locations.¹⁰⁰ Whole groups loitered airborne, waiting for the dust to clear enough to allow landings once again. The fire brigade from Athens drove out to spray the lakebed at Topolia with water and stamp out the dust problem, but the ninety-degree temperatures and blazing Aegean sun made these efforts futile. The dust plagued operations for the rest of the campaign; for the *Fallschirmjäger* billeted near these airfields and awaiting transport to battle, it was a constant companion.¹⁰¹

Student's quartermaster, *Generalmajor* Conrad Seibt faced the arduous task of assembling the required ammunition, medical supplies, food, and drinking water to sustain the 25,000-man invasion force, but his most difficult acquisition requirement was fuel. Each day of planned Operation Merkur sorties required three quarters of a million gallons of aviation gasoline for the transport fleet alone - enough for three sorties by three

⁹⁹Ibid., 74.

¹⁰⁰Pissin, 75. The worst was at Topolia, where an airfield operations officer concerned with the condition of the dry lake bed hired peasants to remove the overgrown grass and grade the field flat. While this no doubt made for smoother takeoffs and landings, it also removed the only stabilizing element in the loose soil; its removal created massive dust clouds over the airfield and additional headaches for aircrews and commanders alike. MacDonald, 74-75.

¹⁰¹Ibid., 62.

wings of Ju-52s.¹⁰² That much aviation gasoline was not readily available in Greece, requiring that Seibt quickly and creatively find as much gas as possible and transport it in-country. Fuel generally travelled by road and rail for smaller air campaigns, but Operation Merkur differed due to its large fuel requirement based on the number of participating airlift aircraft. Road transport proven impossible due to the volume of fuel required and lack of transportation assets provided by *Luftflotte IV* as the command prepared for Operation Barbarossa. Rail lines slowed with the increased traffic moving north on the pathetic Greek rail system.¹⁰³ Thus the large thirst for aviation fuel by the VIII and XI *Fliegerkorps* aircraft required the use of fuel tankers sailing from Constanza, Romania (through the Aegean Sea) and ports in Italy (through the Corinth Canal) to harbors in Greece.¹⁰⁴ These routes remained safe from prowling RAF fighters and Royal Navy patrols. However, during the assault to seize the Corinth Canal bridge on 26 April 1941 (at the close of the Greek campaign), Student's *Fallschirmjäger* failed to secure the span before Allied demolitions teams dropped it into the canal using explosive charges. The Germans struggled for three weeks to clear the debris from the bottom, as the wrecked bridge blocked traffic through the canal.¹⁰⁵ German supply ships and Italian fuel

¹⁰²Pissin, 73. Each attack wave required approximately 208,030 gallons of fuel for the 500 Ju-52s; this equates to 3,926 53-gallon barrels per sortie, for transport aircraft only. These numbers do not factor in the requirements of VIII *Fliegerkorps* bombers and fighters supporting the assault. The estimated requirement exceeded a million gallons per day.

¹⁰³*Ibid.*, 72. This consisted of a single rail line of dubious quality.

¹⁰⁴*Ibid.*, 74.

¹⁰⁵Pissin, 74. On 15 May 1941 German *Kriegsmarine* divers arrived in Athens from Kiel in order to clear the fallen bridge and reopen the Corinth Canal to merchant traffic. It took another two days (until 17 May) to clear the span from the bottom.

tankers sat waiting to transit the canal and enter the harbor at Corinth for weeks; the delay in stockpiling adequate sustainment resources further delayed Operation Merkur until 20 May 1941.

Corinth and Piraeus, the principle harbors in southern Greece, supported no fuel storage. Additionally, the poorly equipped pumping stations at the harbors could pump but 600 barrels per day.¹⁰⁶ All fuel was thus downloaded from the ships and transported via truck in 53-gallon barrels to the individual airfields, a distance varying from as much as 155 miles to as little as nineteen. Once arrived, aircrews and mechanics hand-pumped the fuel into waiting aircraft due to the lack of pumping machinery on-site; yet another casualty caused by the rush north to support Operation Barbarossa.¹⁰⁷ This inefficient process, susceptible to breakdown and failure, required additional manpower and added to Student's growing list of troubles.

To add to the complicated requirements of sustainment and transportation, the status of command and control in the Greek theater was deplorable. Though the *Luftflotte* IV commander empowered Student to plan Operation Merkur, Löhr remained in charge of the operation from a command and control standpoint. Unfortunately, as with the other aspects of this operation, his eye cast east towards Russia. In light of the coming invasion of Russia, *Luftflotte* IV transferred all signals units to Romania, leaving the forces of VIII and XI *Fliegerkorps* without additional communications support for the campaign.

Already overtasked, the organic signals companies in these commands thus acted as

¹⁰⁶Ibid., 72.

¹⁰⁷MacDonald, 73. In many cases the *Fallschirmjäger* stripped to the waist in the blazing sun and near 100 degree temperatures to hoist fuel barrels to refuel the transports. MacDonald, 76-77.

command and control elements for the entire south of Greece, in addition to executing their normal tasks of *Luftwaffe* mission control and communications. This forced Student and von Richthofen to rely on the antiquated and damaged Greek telephone system and a network of messenger stations to communicate with the airfields and their forces.¹⁰⁸ Centralized command and control proved impossible, let alone simple coordination between the transportation units and their assigned fighter escorts or support aircraft.¹⁰⁹ Perhaps more importantly, these absent signal units also contained the *Fliegerkorps*' ground-to-air transmitters. Thus in the midst of the coming battles, the *Fallschirmjäger* would rely on signal panels to communicate with close air support aircraft and mark their positions; radio contact was not possible. Furthermore, their only contact with command and control elements in Greece depended on marginally-capable long distance high-frequency radio communications sets parachuted in with the first wave of attackers. This shortfall would have significant repercussions on the first day of Operation Merkur.

Despite the difficulties thus far encountered, Student remained optimistic. On the morning of 16 May 1941, the senior commanders of Operation Merkur assembled once again in the ballroom headquarters of the Hotel Grand Bretagne to finalize the plan for the coming assault; Student, as the primary planner, briefed Generals Jeshonneck, Löhrr, and von Richthofen.¹¹⁰ As he began, Student stated that in his opinion two ways to take the island existed. The first was an assault at one location with rapid reinforcement and expansion of a single lodgment to drive the enemy back along a main line of resistance.

¹⁰⁸Pissin, 79-80.

¹⁰⁹MacDonald, 75.

¹¹⁰Pissin, 64.

The second spread simultaneous assaults across objectives to disorient and fix the enemy in several locations at once; reinforcement of any position allowed all units to consolidate and advance against the Allied forces across an extended front. As in previous discussions, Student preferred the later based on the techniques proven success in Norway and Holland. He proposed a simultaneous assault at Chania, Crete's capitol city, and the islands three airfields, Maleme, Rethymnon and Heraklion. With his forces spread out across these four objective areas, Student intended to capture at least one airfield intact. By forcing the defenders to disperse their troops to meet the attacks, the plan frustrated any counterattack or reserve commitment and allowed the Germans to reinforce at whichever airfield they secured first.¹¹¹ Once reinforced, Student's "oil spots" could run together and overwhelm the Allied defenses to capture the island.

Löhr and von Richthofen once again objected to the plan, as Student expected. Though he had limited his objectives, Student still did not grasp the severity of the situation and the integration the assault required. Löhr wanted a more conservative approach – a single objective area, Maleme airfield, seized by glider and parachute infantry, then rapidly reinforced by the air-landed mountain infantry. In his opinion, spreading out all over Crete only invited disaster.¹¹² From Maleme the ground attack aircraft of VIII *Fliegerkorps* could easily support operations along a single front. Given the shortfall of signals personnel and ground-to-air communications, this approach made more sense to the *Luftflotte IV* commander; his concept reduced risk and lessened the probability of casualties from friendly fire. Since Maleme was the closest airfield to

¹¹¹Sadler, 46.

¹¹²MacDonald, 70.

Greece, it made sense to concentrate there, then roll down the coastal highway, seize Suda Bay, the capitol and the additional airfields in a linear combat action from west to east.

Löhr's plan was exactly what Student wanted to avoid. He considered a single attack which allowed the enemy to concentrate or commit a reserve against the still-assembling *Fallschirmjäger* out of the question.¹¹³ In his estimation a single attack would only delay the inevitable fall of Crete to the invasion forces; a linear attack was an outdated approach given the new tactics made possible by Students "vertical envelopment."¹¹⁴ For Student, only a daring approach could complete the campaign before the start of Operation Barbarossa.

Von Richthofen reiterated his misgivings about supporting an assault at multiple objectives; he understood the lessons of previous campaigns, but did not possess the resources to support Student's brazen plan. His force could not provide adequate air support for four simultaneous assaults dispersed across the island; as the pioneer of the close air support system used by the *Luftwaffe*, Student could not argue against his assessment. Furthermore, for von Richthofen the most pressing issue was not ease of advance, close air support, or command and control; ironically, his concern was airlift.¹¹⁵

The German airlift aircraft of the day, the Ju-52, was a tri-motor workhorse throughout the war. Though Junkers and other manufacturers produced more than 3,000 of these aircraft during the war, they did little to improve the civilian-designed airliner

¹¹³Sadler, 46.

¹¹⁴MacDonald, 70-71.

¹¹⁵Ibid., 70.

before pressing it into *Luftwaffe* service.¹¹⁶ The slow aircraft flew low (300-400 feet) in the stable portion of its approach to a drop zone, as paratroopers leapt from its fuselage; airdrop speeds rarely exceeded 100 miles per hour.¹¹⁷ Though not equipped with bullet-proof or self-sealing fuel tanks, the Ju-52 withstood hostile fire well. As with any transport aircraft, it required protection from enemy fighters and anti-aircraft artillery.¹¹⁸

Over 500 Ju-52s would participate in the assault. Each of these aircraft could transport one squad of 12 *Fallschirmjäger*. They flew in three-aircraft flights (*Ketten*), with each flight transporting one platoon. An entire company required twelve aircraft, equivalent to one *Staffel* [squadron]; a squadron would transport these paratroopers plus four weapons canisters. A battalion required one *Gruppe* [group] of Ju-52s, equivalent to fifty-three aircraft after adding the *Stabstaffel* [headquarters company] requirement for an additional five. A *Fallschirmjäger* regiment required one *Geschwader* [wing] of 220 aircraft; the entire 7th *Flieger* division required more than 900 aircraft total to move in a single wave.¹¹⁹ The available airlift resources simply did not support the simultaneous assault Student envisioned.

As von Richthofen laid out the scale of the attack, he simultaneously made the case for an invasion plan that maximized the support he could provide the XI *Fliegerkorps*, as Löhr had originally envisioned.¹²⁰ For von Richthofen, it was the only

¹¹⁶Edwards, 38.

¹¹⁷Weeks, 69-72.

¹¹⁸Pissin, 9.

¹¹⁹Department of the Army, DA PAM 20-232, 54-55.

¹²⁰Sadler, 46.

feasible and safe course of action given the realities of available airlift resources and the deficiency in command and control.¹²¹ Student countered that the German experience thus far in large-scale airborne assault operations indicated a single lodgment was insufficient to seize the initiative.¹²² Surprise and speed made all the difference; a *schwerpunkt* was unnecessary due to the psychological paralysis of a simultaneous assault.¹²³ Student created and expanded the German airborne force; as the *Fallschirmjäger* expert there was no argument against his opinion.

The assembled commanders all agreed that inadequate enemy intelligence information made the decision more difficult, as did the inability to disguise the massed air fleet gathered around Athens. The arrival of 500 transport aircraft made hiding German intentions difficult at best.¹²⁴ Furthermore, they agreed that the invasion must execute primarily through airborne assault as the Royal Navy strength in the Eastern Mediterranean easily put any German flotillas at risk during a seaborne invasion. Though Hitler required a sealift as part the invasion, it could not lead the assault as the primary means of attack.¹²⁵ This meant the attack would proceed primarily as an airborne affair, and required seizing intact airfields for the reinforcement of troops on the ground in order

¹²¹E. R. Hooten, *Eagle in Flames: The Fall of the Luftwaffe* (London: Arms and Armour Press, 1997), 85. Richthofen noted in his diary after the conference, “Student planned his operations based upon pure suppositions and preconceived notions.” Hooten, 85-86.

¹²²Pissin, 99.

¹²³Ansel, 218.

¹²⁴Pissin, 67.

¹²⁵*Ibid.*, 67-68.

to wrestle the entire island from Allied control. Furthermore, this requirement virtually decided the targets for the invasion without much guesswork for either the Germans or the Allies.¹²⁶ As the lack of airlift resources ruled out taking all of Crete's airfields in one assault, Löhner proposed allowing the *Luftwaffe's* commanding officer Hermann Goering to make the decision on how to proceed.

For his part, Goering only confused the situation. Interested in concluding the campaign as soon as possible and keeping the peace between his *Luftwaffe* commanders, he chose to support neither course of action. Instead, in an effort to pacify the expertise of the commanders on site, he combined elements of each plan and approved a compromise between the two. Student was to proceed with mission planning in line with his original vision of a vertical envelopment at several objectives, while factoring in the realities of the limited airlift resources.¹²⁷ The XI *Fliegerkorps* would attack in two waves, first in the west and center at Maleme and Chania/Suda Bay, followed by the center and east of the island at Rethymnon and Heraklion airfields. One wave would launch in the morning, with the transports returning to Greece for refueling and reloading for the second drop in the afternoon.¹²⁸ Once the initial assaults secured an airfield, General Julius Ringel's 5th *Gebirgsdivision* could airlift to the island and reinforce the *Fallschirmjäger*.

The order stunned Student. Goering's plan sacrificed the elements of surprise and speed by assaulting at different objectives at different times of the day. It sacrificed the shock value of simultaneous landings so important to Student, yet still spread the force

¹²⁶Ibid., 68.

¹²⁷Sadler, 46-47.

¹²⁸Pissin, 69.

thin enough to deny von Richthofen and Löhr the concentration they desired.¹²⁹ Since the 502 available Ju-52 transport aircraft would carry the *Fallschirmjäger* in separate waves, execution required precise coordination and timing to synergize the efforts of the VIII and XI *Fliegerkorps*. Most importantly, a smooth turnaround for the transport groups at the Greek airfields was even more important than previously considered. With a two wave plan, the afternoon drops in the east of the island abandoned the element of surprise, increasing the likelihood of an alerted and prepared Allied defense upon arrival.¹³⁰ In summary, the hybrid plan for Operation Merkur attempted to combine the best elements of each original plan, but managed only to highlight their shortfalls instead. The lack of sufficient airlift determined the method and tactics of employment; Student could only react to the reality of the situation. Though determined to succeed and validate his original concept for seizing the entire island by airborne assault, Student now lamented the shortened timeline for planning this operation. The assault into Western Europe took months to formulate, not the few weeks Student had available to plan Operation Merkur.¹³¹ No doubt his thoughts drifted to the battle around The Hague in 1940; determined resistance against his lightly armed *Fallschirmjäger* could spell disaster.¹³²

¹²⁹MacDonald, 71.

¹³⁰Ibid.

¹³¹Pissin, 84.

¹³²Ibid., 70

As Student refined his approach, preparations for Operation Merkur continued.¹³³ On 18 May 1941, the VIII *Fliegerkorps* mounted an assault to drive the Royal Navy from Suda Bay and the waters surrounding Crete. Numerous Allied ships in the harbor fell victim to the bombs dropped by von Richthofen's airmen; the cruiser H.M.S. York exploded at anchor.¹³⁴ That same day his forces also attacked the three target airfields, completely destroying the remnants of the RAF fighter force on the island and achieving air superiority.¹³⁵ Though VIII *Fliegerkorps* operations continued to prepare the battlefield for the airborne assault, reconnaissance assets failed to locate significant concentrations of enemy artillery or anti-aircraft guns.¹³⁶ Slyly, the Allied defenders endured the *Luftwaffe* bombing they dubbed "the daily hate" without returning fire, in an effort to camouflage their positions.¹³⁷ Such discipline helped to disguise the hidden strength of the Allied forces on Crete, and lulled the Germans into a false sense of confidence.

¹³³The morning of 17 May 1941 crystalized the need for the coming assault more than any other. As dawn broke over Athens, RAF fighters and medium bombers launched from airfields in North Africa streaked over several German-held Greek airfields strafing and bombing in a daring hit-and-run assault. They knocked out twenty-two Me-110's on the ground as the Germans slept, but the more than 500 transports escaped unscathed. Apparently the relevance of the easily discovered transport fleet did not affect Allied intentions as they never attempted any additional attacks. Ansel, 267.

¹³⁴Davin, 86. In total, between 27 April and 27 May 1941, nine warships and ten merchant ships were sunk in Suda Bay; resting on the bottom of the harbor made its further use difficult for the Royal Navy after 18 May.

¹³⁵MacDonald, 79. Von Richthofen reported achieving air superiority the following day, 19 May 1941.

¹³⁶Ibid.,78.

¹³⁷Antony Beevor, *Crete: The Battle and the Resistance* (Boulder, CO: Westview Press, 1994), 106; MacDonald, 164.

One commander who definitely did not share the optimistic view of his *Luftwaffe* counterparts was *Generalmajor* Julius Ringel of the 5th *Gebirgsdivision*. His mountain infantry lacked the training in air-landing operations like the 22d *Luftlande* division they replaced in Operation Merkur. Student assigned one of his most experienced and disciplined *Fallschirmjäger* commanders, *Oberst* Bernhard Ramcke, to train Ringel's alpine division on the fundamentals of air-landing infantry techniques. Ringel was skeptical, recounting that he thought the entire operation "a suicidal adventure."¹³⁸

As planning continued, Student relented to a direction from Hitler that required Operation Merkur augment the air assault with additional seaborne landings. Though he did his best to ignore this portion of the plan, Student assigned tanks from the army's 5th Panzer division and his own field artillery to the seaborne landing forces, in addition to elements of Ringel's division.¹³⁹ Student spent days procuring any available light ships and motor cutters from the ports in southern Greece. Since the German Navy maintained no presence in the Eastern Mediterranean, he coordinated with Italian warships to escort the assembled flotillas on the afternoon of the first day of operations.¹⁴⁰ General Ringel harbored even more skepticism about the seaborne attack stating: "It was crazy. Anyone who had anything to do with Operation Merkur was uneasy about it. Officers and men alike all said that they would rather fly to Crete than risk going by sea."¹⁴¹ Despite these

¹³⁸MacDonald, 71.

¹³⁹Quarrie, 71-72, 75.

¹⁴⁰Ibid., 72.

¹⁴¹MacDonald, 73.

misgivings, the idea of transporting 25,000 assault troops to Crete by air was easier planned than executed.

In order to determine the capability of the German-held Greek airfields to rapidly launch the assault force airborne, *Generalmajor* Conrad, the commander of the XI *Fliegerkorps* transportation fleet, executed a practice launch of his airlift aircraft on the morning of 18 May.¹⁴² The size and scope of Operation Merkur's airlift necessitated as much practice as possible, but the results of this test did not bode well for the *Luftwaffe*. From the outset, the takeoff roll of the leading aircraft delayed those following in formation; at Topolia, fine dust sent aloft by the departure of the lead flight blinded every pilot waiting for takeoff. The dust reduced visibility, ruined depth perception, and choked crewmembers and engine intakes alike. The size of most of the transportation units' airfields allowed the departure of one squadron (twelve aircraft) at a time, a feat that normally took a matter of minutes to complete. In the dusty conditions seventeen minutes passed before visibility improved enough to allow for the next unit to depart. Assembly of an entire wing (over 200 aircraft) departing from two different fields required more than an hour to accomplish (an event which typically lasted less than half that time).¹⁴³ For Conrad there was little doubt that the coming execution would present delays and difficulties to *Luftwaffe* commanders. Unfortunately for the aircrews, *Fallschirmjäger*, and commanders, the time for trail runs was over.

On the morning of 19 May 1941, General Student assembled the leaders of the assault forces in his ballroom-headquarters at the Hotel Grand Bretagne to brief the final

¹⁴²Ibid., 74.

¹⁴³Pissin, 76.

version of the Operation Merkur plan.¹⁴⁴ A large relief map of the island of Crete adorned the wall behind the general; armed guards and Gestapo agents ringed the corridors outside the shuttered room. Student played the part of the serious commander, but his confidence and pride showed through; despite the changes, this plan was *his*, and he enthusiastically briefed it as such.¹⁴⁵ The planned attack clearly showed the German pride in their previous success in Norway and Holland. As in those assaults, glider infantry would land first, nearest to the hardened or high-value targets in order to destroy them quickly. Following the glider assault, the parachute infantry lands to secure and expand the lodgment for follow-on air-landing infantry forces. As his briefing began Student's confidence and determination to succeed set the tone.¹⁴⁶

After an hour-long aerial bombardment by the fighters and bombers of the VIII *Fliegerkorps*, the 7th *Flieger* division would lead a three-phased plan of attack. Student divided the assault forces into three groups, West, Center and East. Beginning at 0705 local time, *Gruppe West* [Group West] consisting of the *Luftlande Sturm Regiment* (LLStR) under the command of *Generalmajor* Eugen Meindl, would seize Maleme airfield by way of glider and parachute infantry assault.¹⁴⁷ The gliders of the LLStR would deliver the 1st Battalion directly to the airfield, concentrating landings around the

¹⁴⁴MacDonald, 79. Student briefed the commanders of the transportation wings, the 7th *Flieger*, 5th *Gebirgsdivision* and the LLStR on 17 May 1941; the recounted briefing in this text follows the collective narratives of the final briefing of Operation Merkur, delivered to regimental officers on 19 May 1941, the day prior to the assault.

¹⁴⁵Whiting, 51.

¹⁴⁶Pissin, 100.

¹⁴⁷Sadler, 49.

Allied artillery pieces and radio station in order to isolate and destroy the defenders.¹⁴⁸

Immediately following the gliders' touchdown, the remaining three battalions of the LLStR would arrive via Ju-52 transport and parachute in a semi-circle around the field to secure the lodgment.¹⁴⁹

Simultaneously, the lead elements of *Generaleutnant* Wilhelm Süssman's *Gruppe Mitte* [Group Center] would land in drop zones outside Suda Bay and Chania. Group Center's objectives isolated the Royal Navy base and the island's capitol city in order to neutralize the Allied command structure operating from these locations. Since the main effort of the initial assault fell on Maleme airfield, Süssman's five battalion assault force did not execute in a single lift; he would execute in two waves.¹⁵⁰ His force consisted of the 7th *Flieger* Headquarters Company, two attached glider infantry companies, and the 3d *Fallschirmjäger* Regiment for the isolating assault, followed by the 1st and 3d Battalions of the 2d *Fallschirmjäger* Regiment seizing Rethymnon airfield in the afternoon.¹⁵¹ Following the morning assaults, the transport squadrons would return to their airfields around Athens to reload and refuel for the second phase of the attack. At 1515 local time, *Gruppe Ost* [Group East] consisting of the 2d Battalion, 2d *Fallschirmjäger* Regiment, and the 1st *Fallschirmjäger* Regiment under the command of

¹⁴⁸Pissin, 101. The LLStR received objectives typical of those for the entire assault force, including: Capture of Maleme Airfield; Elimination of obstacles to the follow-on landing of the 5th *Gebirgsdivision*; Secure the Airfield and protect it against enemy artillery fire; Armed Reconnaissance to the west and south; Establish and maintain contact with *Gruppe Mitte*.

¹⁴⁹*Ibid.*, 100.

¹⁵⁰*Ibid.*, 104.

¹⁵¹MacDonald, 80.

Oberst Bruno Bräuer would seize Heraklion airfield by parachute assault.¹⁵² Mountain infantry troops, tanks and artillery would reinforce the lodgments at Heraklion and Maleme late in the afternoon aboard the seaborne landing flotillas. General Ringel would take command at Heraklion upon his arrival the next day.¹⁵³ While the bulk of the air-landed infantry of the 5th *Gebirgsdivision* planned to land at Heraklion, a single regiment would reinforce *Gruppe West* at Maleme as well.¹⁵⁴ At the end of his briefing, Student emphasized the airfields as the assault's *schwerpunkt*: "The commanders of Groups West and East are responsible for ensuring that the airfields are immediately, and at the least in the course of the first night, cleared for landings."¹⁵⁵

Student's XI *Fliegerkorps* intelligence officer followed the commander on stage and produced what one author categorized as, "the most inaccurate intelligence briefing of the entire war."¹⁵⁶ Based on the reports compiled by three weeks of aerial reconnaissance flights and the *Wehrmacht* intelligence network, the Germans believed only 5,000 Allied troops garrisoned Crete. They thought the Allied forces bivouacked around Suda Bay and Maleme, with an additional 400 at Heraklion; Rethymnon was undefended. The Germans believed that the New Zealanders and Australians pulled back to Egypt, and most Greek troops had evacuated as well. The remaining troops were assessed as an assortment of leftover British infantry and island constabulary units, short

¹⁵²Sadler, 49.

¹⁵³MacDonald, 80.

¹⁵⁴Pissin, 97.

¹⁵⁵MacDonald, 80.

¹⁵⁶Beevor, 79.

of heavy weapons and anti-aircraft artillery and without tanks. The *Luftwaffe* expected little resistance. It was a terrible underestimate of strength, based on a complete lack of appreciable intelligence; in fact, over 42,000 Allied defenders awaited the coming assault.¹⁵⁷ While preparations for the attack into Western Europe required over six months of planning and reconnaissance to produce an accurate picture from which to plan, Operation Merkur executed after only four weeks of intense effort. No doubt the difference in available time affected the quality of the intelligence collection; it also encouraged German overconfidence. One *Fallschirmjäger* remembered: “We said in jest that our follow-up mountain division would arrive in time to take part in the ceremonial parade to mark the end of the campaign. Our mood was so optimistic that we thought we *Fallschirmjäger* would be enough to bring the British and Greek defenders of Crete to their knees.”¹⁵⁸ The same feeling of confidence in the coming triumph permeated the entire invasion force.

General Student and his planning team in the XI *Fliegerkorps* staff worked tirelessly for weeks to prepare and reinforce an original plan in a time-critical and extremely resource-limited environment. The constraints of the pending invasion of Russia no doubt fundamentally affected the operational approach to Operation Merkur as the lack of airlift aircraft, incomplete communications assets, cumbersome fuel sustainment, and inadequate airfields all took their toll on the planned vertical envelopment of Crete’s defenses. With no other viable option for invasion, airlift was the only means of assault. More than any other factor, the fleet of 502 Ju-52s determined the

¹⁵⁷MacDonald, 82.

¹⁵⁸Ibid.

method and timing of the attack. Despite comprising more than half of the *Luftwaffe*'s fleet of transports, this force fell woefully short of the airlift requirements for such a bold plan. In order to maintain the spirit of the assault methods so successfully executed in Norway and Holland, the emerging plan for Operation Merkur compromised the elements of surprise and speed which previously ensured *Fallschirmjäger* dominance in battle. Additionally flawed in its intelligence estimate of the Allies on Crete, and the assumed simplicity of supporting and resourcing the two-wave assault, the compromise-plan for Operation Merkur simply left too much to chance. Though bold, Student's daring plan risked much in hopes of achieving immortality for his concept of employment. He *needed* this assault to succeed. Based on the known information at the time, Student believed the resources and dispositions of the plan were more than enough for a successful operation. For the men confidently executing the first division-sized airborne assault in history, the seemingly well-resourced effort would fall fatally short of their expectations for success.

CHAPTER 4

THE ASSAULT: 20 MAY 1941

Throughout the night of 19 May, several developments among the German airlift and intelligence forces supporting Operation Merkur foreshadowed the difficulties of the coming dawn. During preparations for the assault into Crete, shortages of all kinds plagued mission planners and commanders alike. Among these shortages, the limited amount of airlift aircraft proved most influential on the assault. The insufficient fleet of transportation aircraft dictated Student's assault plan, its timing and objectives, and thus the manner of the attack as a whole.

In order to move the entire 7th *Flieger* division to Crete, the 502 Ju-52s of XI *Fliegerkorps* would make two round trips to the island, refueling and reloading after the first assault before dropping the second wave of *Fallschirmjäger* on the afternoon of 20 May. Though the airlift aircrews received their mission orders and intelligence briefings the day prior, no additional intelligence information ever arrived to the pilots of the airlift assault force. Aerial photographs of drop zones and air defenses were absent from their briefings; pilots had no idea how to find their targets or what they looked like from the air. Thus after sundown on the eve of the assault, the staff of the XI *Fliegerkorps* fanned out amongst the encampments of the 7th *Flieger* division to collect photographs distributed to *Fallschirmjäger* commanders and redistribute them to the fliers; little time remained for any substantive analysis by the aircrews.¹⁵⁹

¹⁵⁹Ansel, 275.

German intelligence on the Allied defense of Crete factored heavily into the assault plan; their misconception of the islands defensive garrison only bolstered optimism into overconfidence. Based on the information available at the time and the lack of any significant anti-aircraft resistance, von Richthofen believed the Allied defenses sufficiently softened to land the German force. Seventeen consecutive days of bombing and strafing convinced the Germans that the coming assault could proceed without much resistance.¹⁶⁰ At this late stage of preparation prior to the attack, *Generalmajor* Alfred Schlemm, the XI *Fliegerkorps* Chief of Staff, received the first truly accurate intelligence of the entire campaign; the news chilled his blood. In the first dispatch came news that the Royal Navy's Alexandria Squadron of two battleships, one small aircraft carrier, four cruisers and fifteen destroyers left Egypt that day, bound for the waters north of Crete.¹⁶¹ The threat of an Allied naval squadron sailing within range of the island jeopardized the invasion; reinforcement by sea was out of the question. The second dispatch astounded the chief of staff: OKW intelligence now estimated the Allied force on Crete at 48,000 men.¹⁶² Schlemm briefed his counterparts at the offices of the *Kriegsmarine* commander in the Mediterranean, and at *Luftflotte IV*; both deferred any action to XI *Fliegerkorps*. Though just settled in for a few hours rest, Student was awakened and received the news without emotion. He tiredly looked over the range

¹⁶⁰MacDonald, 82.

¹⁶¹Ansel, 276.

¹⁶²MacDonald, 179.

charts of the Royal Navy squadrons, turned to Schlemm and shrugged, “Waking me was really unnecessary.”¹⁶³ The die was already cast.

To compensate for the previously-demonstrated difficulties of rapidly launching over 500 transports from unimproved airbases, and subsequently assembling three wings of XI *Fliegerkorps* aircraft in formation prior to the assault, the Germans started their day early. In preparation, ground crews worked through the night to position aircraft on taxiways adjacent to the airfields to facilitate a rapid departure. Before dawn, the wind changed direction 180 degrees, thus requiring further adjustment prior to takeoff. The first aircraft lifted off at 0235 local time; instead of much needed rest, aircrews and *Fallschirmjäger* alike spent an uncomfortable, tiring night preparing to launch Operation Merkur.¹⁶⁴ Dust kicked up by the aircraft propellers once again took its toll as the aircraft departed; wingmen and trailing squadrons waited endlessly for clear air. More than two hours passed before the entire force lifted off.¹⁶⁵ The airborne transports circled their Greek airfields with lights on for two hours as the assault force assembled in the early morning. If the Allies ever doubted hour of the pending attack, the fleet of aircraft circling Athens in the pre-dawn hours of 20 May no doubt confirmed the coming assault; any semblance of surprise disappeared. By 0500 local time the entire force was airborne and assembled.¹⁶⁶

¹⁶³Ansel, 276.

¹⁶⁴Pissin, 109.

¹⁶⁵Ansel, 281.

¹⁶⁶Pissin, 109.

A total of 493 Ju-52s and fifty-three gliders made it into the air on the morning of 20 May, 1941, carrying 6,002 *Fallschirmjäger* south to Crete.¹⁶⁷ The armada consisted of over 1,000 aircraft, including fighter escorts, bombers, transports, gliders and glider tugs. Preceded by fighters and bombers of the VIII *Fliegerkorps*, the transports dropped to a low altitude over the ocean in order to avoid detection and to remain clear of the attack forces flying ahead to bomb the Allied defenses one last time. One such bomber overtook the gliders and tug aircraft close enough to inflict the day's first casualties.

Generaleutnant Süssman, commander of *Gruppe Mitte*, perished when an He-111 bomber raced over his glider at high speed while enroute to Crete. Turbulence from the passing aircraft ripped the wings off his assault glider, causing it to crash on the tiny Greek island of Aegina in Athens Bay, killing all aboard.¹⁶⁸ Other than this preliminary tragedy, the procession continued uneventfully southward.

As the transport formations passed over the Greek island of Kithira they dropped to less than 100 feet altitude over the Mediterranean Sea; after a two hour flight, Crete grew into view to the southeast out of the rising sun.¹⁶⁹ The transports turned east, aiming their flight path down the length of the island to remain clear from the VIII *Fliegerkorps* aircraft finishing the last of their attacks from the north. In the left formation, *Gruppe West* headed for Maleme along the coast; *Gruppe Mitte* headed for Chania on the right. The sun blinded the pilots and made discerning the features of the island difficult. As

¹⁶⁷Ansel, 291.

¹⁶⁸MacDonald, 180. The Heinkel which caused the accident was from II/KG26 (2d *Gruppe, Kampfgeschwader* 26). Christopher Shores, *Air War for Yugoslavia, Greece and Crete* (London: Grub Street Publishing, 1987), 341.

¹⁶⁹Ansel, 280.

they crossed the western coast, the huge formation slowly climbed to its 300-400 foot drop altitude while the *Fallschirmjäger* prepared to jump into combat.¹⁷⁰

At 0635, the sunrise attack of the VIII *Fliegerkorps* subsided. Allied defenders climbed out of their trenches and hurried to mess tents to grab a quick breakfast; ten minutes later all hell broke loose as the second wave of von Richthofen's attack began. At Maleme airfield, Ju-87 dive bombers followed two dozen He-111's in strikes against the artillery, slit trenches and tents of the New Zealanders and Royal Air Force crews still left on the island.¹⁷¹ For almost half an hour the Germans bombed and strafed the airfield and defensive positions surrounding Hill 107 to the south, all the while observed from afar by General Bernard Freyburg, the commander of the Allied garrison. As the last Stuka turned north, the low growl of aircraft engines grew audible from the west; hundreds of Ju-52 transports soon lumbered into view. Freyburg looked at his watch and smirked, "They're right on time."¹⁷²

Such a quip betrayed one of the most important secrets the Allies managed to keep from the Germans throughout the war; nobody within earshot paid the remark much attention. "The general seemed mildly surprised at German punctuality," noted a staff officer.¹⁷³ The secret was codenamed ULTRA, conspicuous throughout immediate

¹⁷⁰Ibid., 277, 281.

¹⁷¹Shores, 282, 341-342. The Ju-87 *Stuka* dive bombers of *Sturzkampfgeschwader* 2 were led by Oberleutnant Frank Neubert, who was famous in the *Luftwaffe* for scoring the first aerial victory of World War II in the early morning of 1 Sept 1939 over Poland. He was later decorated with the Knights Cross of the Iron Cross for his actions on the first day of Operation Barbarossa, 22 June 1941.

¹⁷²MacDonald, 170.

¹⁷³Ibid.

postwar accounts for its absence in any official report; the program was not declassified until much later. In fact, the British read German Enigma-encrypted message traffic on a daily basis since breaking the *Luftwaffe* code in May of 1940.¹⁷⁴ Freyburg received the summary of the entire German battle plan sometime after 7 May 1941; the communique detailed that the assault would rely heavily on airborne infantry forces attacking to secure airfields on or about 17 May. It identified Maleme, Rethymnon and Heraklion airfields as the primary targets for an invasion force of over 25,000, with additional reinforcements landing by sea.¹⁷⁵ The Allies thus possessed a nearly complete picture of the coming battle from inception to execution.

In addition to the ULTRA intercepts Allied agents in Greece maintained a complex network of spies and informants who continually monitored and surveyed German actions on the mainland. In Athens, the management of the Hotel Grande Bretagne unknowingly hired one such agent, a German-educated Greek engineer who was also a clandestine major of British military intelligence, as a telephone operator and repairman. After an interview with the local Gestapo agent following the Allied departure

¹⁷⁴Ibid., 98.

¹⁷⁵MacDonald, 159-160. Allied reporting of the coming invasion of Crete was remarkably accurate, with two exceptions: the date and the exact composition of the attack. Given the delays associated with the airlift forces and fuel, it is not surprising that the Allies spent the last three days before the attack on heightened alert. They also apparently did not intercept the change to task organization regarding the 22d *Luftlande* division remaining in Romania, and its replacement by the 5th *Gebirgsdivison*; reports show the expectation of receiving the 22d *Luftlande* and no mention of the mountain troops. MacDonald, 160.

from Greece, he worked for weeks forwarding target information gleaned from his daily interaction with *Luftwaffe* staff officers in Student's headquarters.¹⁷⁶

Allied commanders made sure not to betray their knowledge of the German battle plan. Despite fears of a more conventional invasion from the sea, when Freyburg relocated his forces from positions near the beaches to the areas surrounding Crete's airfields British Army headquarters in Egypt intervened. Authorities in England would rather risk losing Crete than jeopardizing the knowledge of ULTRA's broken *Luftwaffe* codes; the island was to be defended, but not so well as to betray the secret. Freyburg maintained his forces as originally arrayed, but kept several battalions in reserve as a counterattack force.¹⁷⁷

Several German-authored postwar reports of Operation Merkur mention the British effort to study and understand the *Luftwaffe*'s employment of airborne forces.¹⁷⁸ Freyburg no doubt knew of the German *Fallschirmjäger* operations in Norway and Holland; once he knew the method of attack, he deduced the airfields as the decisive points and planned accordingly. His troops dug dummy artillery positions, fortified Hill 107 south of Maleme, and divided to support multiple defensive operations at each airfield and the capitol at Chania simultaneously.¹⁷⁹ The geography of the island, with the single road, main airfields, Suda Bay, and the capitol city spread across a 160-mile long northern coast made mutually supportable fixed-defense operations difficult. Multiple

¹⁷⁶Kiriakopoulos, 34-43.

¹⁷⁷MacDonald, 160.

¹⁷⁸Pissin, 33.

¹⁷⁹Ibid., 36.

targets spread out over a large area required an elastic mobile-defense, the use of forward stationed reserves, and counterattacks.¹⁸⁰ Freyburg thus divided the island into sectors, similar to the German plan: Maleme, Suda Bay, Rethymnon, and Heraklion from west to east.¹⁸¹

To defend Crete, Freyburg commanded a force close in size to the latest German intelligence estimate of 48,000 men. In fact, the Allied defense consisted of a total of 42,527 men of the Royal Navy, Royal Air Force, Royal Marines, British Army, Australian Imperial Forces, the New Zealand Division, and the Greek Army and Gendarmerie.¹⁸² Freyburg placed his most reliable unit, the 11,859 men of the New Zealand Division at Maleme in the west. Its 4th, 5th, and 10th Brigades along with twenty light artillery pieces defended the airfield on three sides, including the heights to the south.¹⁸³ Near Suda Bay, the Australians and Greeks defended an approach to the Royal Navy base. Freyburg augmented these troops with his reserves, headquarters forces, engineers and 50 pieces of light artillery totaling 14,822 men in the sector.¹⁸⁴ At Rethymnon airfield the Australian and Greek defenders totaled 6,730 men and sixteen artillery pieces.¹⁸⁵ Lastly, on the eastern end of the island at Heraklion, 8,024 British,

¹⁸⁰Ansel, 238.

¹⁸¹MacDonald, 152.

¹⁸²Davin, 480.

¹⁸³Davin , 482-483. Six 3.7-inch howitzers, nine 75-mm cannon, one 77-mm cannon, ten Bofors cannons, two 3-inch and two four-inch guns.

¹⁸⁴Davin, 483-484. Sixteen 3.7-inch howitzers, sixteen Bofors cannons, ten 3-inch guns, two 4-inch guns, four 6-inch guns, and two 12-pound guns.

¹⁸⁵Davin, 481-482. Fourteen 75-mm and 100-mm cannon, and two 4-inch guns.

Australian and Greek troops and twenty-nine pieces of artillery defended the airfield.¹⁸⁶ Perhaps most importantly Freyburg also fielded some twenty-five light tanks and armored heavy machine gun carriers; he sent twelve to Maleme, two to Rethymnon, ten to Chania, and eleven to Heraklion.¹⁸⁷ Freyburg knew from both experience and intelligence reports that German *Fallschirmjäger* jumped into combat lightly armed, mostly with machine pistols and grenades. Heavy weapons (machineguns and artillery) arrived separately, dropped individually or in special drop containers, but included few anti-tank weapons.¹⁸⁸ Surveying his defensive deployments and firepower in all sectors, deploying tanks in the east and west and reserves in the center, Freyburg felt as prepared as possible.

Though convinced that Maleme's location in the west made the airfield the key to the island, Freyburg acknowledged that Crete would fall if the Germans secured and held a lodgment at any of their designated assault targets.¹⁸⁹ In light of this realization, it is noteworthy that the commander of the Allied defense did not order the airfields rigged for

¹⁸⁶Davin, 480. Thirteen 75-mm or 100-mm guns, ten Bofors cannons, two 4-inch and four 3-inch guns.

¹⁸⁷Davin, 480-483. Freyburg's tanks force consisted of nine obsolete British Matilda II's and sixteen Vickers VIIb light tanks, as well as many Bren gun carriers. He sent two of the heavier Matilda's to Maleme, two to Rethymnon and five to Heraklion. Albert Palazzo, *Battle of Crete* (Canberra, Australia: Army History Unit, 2005), 21, 33.

¹⁸⁸Ansel, 277. The Germans dropped 20-mm Flak38 and 37-mm PaK36 guns at Crete via five-parachute harness; they also airlifted their special 75-mm and new 105-mm mountain guns, designed by Krupp for lightweight air transportability (both guns disassembled easily for easy transport by aircraft or pack-mule). Ju-52 transports later hauled 50-mm PaK38s to the island, but the Germans destroyed all Allied tanks by the time they arrived. Quarrie, 84-87.

¹⁸⁹Ansel, 238.

demolition, despite having engineers and ample supplies of explosives on hand. This action indicates that Freyburg either believed the airfields of some use to the Allies in the future, or that he saw no need for their destruction; if any of the fields fell, the best he could do was delay the inevitable.¹⁹⁰

The impending attack began at 0705 local time when the first gliders of *Generalmajor* Eugen Meindl's *Luftlande Sturm Regiment* touched down on the rough terrain surrounding the airfield at Maleme. As the last bombs from prowling Ju-87 Stuka dive bombers exploded, the gliders of the 1st Battalion/LLStR, led by Major Walter Koch, skidded to a halt west of Maleme.¹⁹¹ Koch's men burst out of their aircraft and captured the Allied artillery position nearby. That action was the last to go as planned on 20 May 1941; the remainder of the battalion arrived safely but remained pinned down by unexpectedly heavy Allied resistance almost as soon as they landed.¹⁹²

As the glider infantry west and south of Maleme went into action, the parade of Ju-52 transports arrived overhead dropping the 2d, 3d and 4th Battalions of the LLStR at about 0715 local time. The 2d Battalion landed without incident, but the same cannot be said for the remaining units. The 4th Battalion's heavy weapons and motorcycles, dropped via five-parachute harnesses, landed among the rocks and olive groves west of

¹⁹⁰Ibid., 259-260.

¹⁹¹Quarrie, 52-53. Koch was already famous for leading the German assault on the Belgian fortress Eben Emael and the bridges over the Albert Canal on 10 May 1940, during the invasion of France and the Low Countries.

¹⁹²MacDonald, 172.

the field; most were damaged beyond use.¹⁹³ The 3d Battalion, dropped at the end of the formation and landing east of Maleme, received the most ground fire from Allied positions.¹⁹⁴ The four companies of the 3d Battalion landed among the 21st, 22d, and 23d New Zealand Battalions.¹⁹⁵ The majority of their 400 casualties occurred as the *Fallschirmjäger* floated to the earth, without firing a shot.¹⁹⁶ Leadership did not escape unscathed. Major Koch, *Generalmajor* Meindl, and the majority of the LLStR battalion and company commanders fell killed or wounded; Dr. Heinrich Neumann, the regimental surgeon, commanded 1st Battalion as the senior officer on the field.¹⁹⁷ By noon, the LLStR held few objectives; the outnumbered German troops held neither Maleme airfield nor the heights to the south. Casualties mounted and no communication was yet possible with XI *Fliegerkorps* headquarters in Greece.¹⁹⁸ Regardless of the casualties incurred once the paratroopers jumped, the first wave of transports at Maleme suffered little

¹⁹³Pissin, 123. The heavy weapons consisted of 20-mm anti-tank rifles and small pack-howitzers. Shores, 343.

¹⁹⁴3/LLStR dropped from the fifty Ju-52s of 12 Group from Topolia. Shores, 342.

¹⁹⁵Ansel, 286.

¹⁹⁶Palazzo, 40-41. One dead 3d Battalion company officer was found by the New Zealanders with a company roll stuffed in his shirt. When the Kiwi's checked the 126 names on the roll, they tallied 112 bodies positively identified. Palazzo, 41.

¹⁹⁷MacDonald, 173, 175. Captain Rudolf Witzig, who led Major Koch's assault on Fort Eben Emael on May 10, 1940, fell in the first few hours of fighting south of Maleme. He lay wounded in a bomb crater for three days before he was found and evacuated from Crete.

¹⁹⁸Pissin, 129-130.

damage. Obviously, the VIII *Fliegerkorps* attacks succeeded in suppressing the anti-aircraft defenses; *Gruppe West* lost no aircraft.¹⁹⁹

In the center of the island, Guppe Mitte was less fortunate, beginning when its commander, *Generaleutnant* Wilhelm Sussman, perished when his glider crashed enroute to the assault. Sussman's detachment of glider troops encountered heavy artillery fire from previously unidentified positions, forcing evasive actions which spread the gliders across the plain southwest of Chania.²⁰⁰ One of their targets, a group of artillery positions designated for assault based on the analysis of aerial reconnaissance photos, was only a decoy. Following the glider assault, the Ju-52 transport armada arrived overhead at 0730 local time.²⁰¹ The 1st and 2d Battalions of the 3d *Fallschirmjäger* dropped as planned, but encountered heavy fighting once assembled on the ground. Securing Chania or assaulting Suda Bay was out of the question.²⁰² Concentrated anti-aircraft artillery fire against the trailing echelon of transports resulted once again in evasive action; the 3d

¹⁹⁹Ibid., 124.

²⁰⁰Pissin, 126. Four of the sixteen gliders (including most of the troops onboard) in this assault unit were lost, three due to poor landings resulting from evasive action.

²⁰¹Beevor, 199-120. When the attack on Chania began, King George of the Hellenes (the King of Greece), Prince Peter (of Greece) and the Greek Prime Minister were all at the King's villa south-west of the capitol. One glider of the LLStR landed about 300 yards from the house, but the Germans inside moved off toward the town. It appears they did not know the royal party was present on Crete; the king eventually escaped to the south with an armed escort. Shores, 342.

²⁰²Pissin, 129. 3d *Fallschirmjäger* lost approximately a third of its force in this assault, about 600 men out of the 1800 who jumped into Chania.

Battalion dropped several miles from their intended target, spread across the plain southwest of Chania.²⁰³

Despite heavier than expected anti-aircraft fire, the transport fleet encountered no Allied fighters, and lost only seven aircraft of the 493 launched due to ground fire.²⁰⁴ As the Ju-52s transports returned to their Greek airfields between 0900 and 1200, Student maintained an optimistic confidence that his plan was proceeding as expected. Von Richthofen reported his bombers eliminated the defenses around Maleme. As they readied for their next sortie, transport pilots reported some heavier than expected fire, but nothing of much concern. At a moment when accurate information was at a premium, the *Luftwaffe* command once again went along with a “no news is good news” report, much as they had with the pre-assault lack of intelligence information. Student reported an unopposed assault to Berlin.²⁰⁵ Because no radio communication with Crete was as yet operational, *Luftwaffe* leadership had no way of knowing about the disaster developing on the isolated island.

As Student dutifully reported the success of the first assault wave, signals officers of the LLStR on Crete frantically attempted to make contact with the XI *Fliegerkorps* headquarters in Athens. While the headquarters signal units of the two *Fliegerkorps* moved north to prepare for Operation Barbarossa, signal companies from the LLStR assaulted Crete with their regiment. Loaded into the nine gliders assigned to the regimental headquarters, a series of poor landings during the first wave of the assault

²⁰³Ibid., 127.

²⁰⁴Ibid., 128.

²⁰⁵MacDonald, 187.

damaged their radio equipment beyond repair. After eight hours of experimentation, the LLStR signals officer managed to cobble together a working radio set and contact Athens.²⁰⁶ The message relayed to Student reported the wounding of *Generalmajor* Meindl and intermittent artillery fire at Maleme airfield, but little else. The situation on the ground seemed largely in-hand, with *Fallschirmjäger* pushing up Hill 107 against determined enemy resistance; the message made no mention of *Gruppe Mitte*. Whether unwittingly deceptive or uninformed, the report reinforced the optimistic outlook of the Operation Merkur leadership.²⁰⁷

In the early afternoon Student dispatched *Hauptmann* [Captain] Albert Snowadzki, a *Luftwaffe* airfield control officer, and his staff to Maleme in two Ju-52s in order to prepare the airfield for the immediate reception of the 5th *Gebirgsdivision*. Arriving as the XI *Fliegerkorps* received the first report from the island, Snowadzki's Ju-52 just touched down on the western runway when the ground rushing past suddenly erupted.²⁰⁸ Allied artillery, machine gun and rifle fire peppered the metal skin of the transport and shattered the windshield, showering the crew with glass; as the only thing moving on the open field, the Ju-52 made an easy target. The pilot slammed the throttles forward, struggled airborne and banked hard left, flying out to sea. Shaking as he

²⁰⁶Pissin, 129.

²⁰⁷MacDonald, 188.

²⁰⁸Pissin, 135.

reported in to Student in Athens later that afternoon, Snowadzki relayed that Maleme still hung in the balance. Student soldiered on, unwilling or unable to change the plan.²⁰⁹

Events in Athens turned sharply for the worse in the afternoon. Ensuring the departure of the second attack wave on the approved timetable required the rapid recovery, refueling and reloading of the entire fleet of Ju-52 transport aircraft. Conditions on the airfields surrounding Athens now proved that timetable wildly optimistic. As the aircraft returned between 0900 and 1200 local time, the transports once again stirred the terrible Greek dust, despite the efforts of *Luftwaffe* and Greek firemen wetting down the landing fields. Circling overhead to wait for the dust to settle, the Ju-52s ran low on fuel; some circled for two hours, making their first sortie some six hours long after the initial delays in the morning, the flight to the first drops, and the return trip.²¹⁰ Battle damaged aircraft from the first wave crashed on landing so frequently that they overwhelmed the wrecker trucks and aircraft tugs stationed at the *Luftwaffe* airfields, further bogging down landing operations and blocking runways. Landing incidents following the first wave increased losses from seven aircraft to fifty, and drastically affected the subsequent assault.²¹¹

Once landed, refueling the massive transport fleet took much longer than anticipated. Waiting *Fallschirmjäger* stripped to their waists and manhandled heavy fuel

²⁰⁹MacDonald, 188. Student subsequently received message traffic reporting that communication between the units on Crete was established, though contact with the island remained intermittent. Additionally, this traffic reported Süßman's death and the suspended attack on Chania by the 3d *Fallschirmjäger* of *Gruppe Mitte*. MacDonald, 188.

²¹⁰Pissin, 132.

²¹¹*Ibid.*, 131.

drums to assist in the operation which fell further and further behind schedule.²¹² *Oberst* Rüdiger von Heyking, the commander of KGzbV 2 at Topolia watched the whirlwind of activity and checked his watch.²¹³ The schedule allowed just two hours for refueling and reloading before the second takeoff, scheduled at 1300; with the labored recovery and delayed refueling operations, the schedule was now impossible to maintain. Von Heyking telephoned XI *Fliegerkorps* to warn Student of the delay and wasted valuable time dealing with the poor connection on the Greek telephone network. Finally reaching Student's chief of staff, he reported the inevitability and nature of the delay, and requested coordination with the VIII *Fliegerkorps* to ensure air cover for the transports once they took off. The message never reached the fighters and bombers of von Richthofen's command; by the time von Heyking placed his call the VIII *Fliegerkorps* was already departing for Crete.²¹⁴ The transports would assault alone.

Originally scheduled to depart their Greek bases at 1300 local time for a 1500 drop over Rethymnon and Heraklion airfields, the delay in landing, refueling and clearing wrecks from the runways resulted in a 3.5 hour interlude. The transports did not start engines until after 1400. From then on they struggled into the air, dealing all the while with blinding dust, in piecemeal fashion. This time none of the squadrons circled endlessly to allow the groups and wings to form. The operation was already hours behind schedule; as soon as the transports lumbered into the air they turned directly south to

²¹²MacDonald, 189.

²¹³*Ibid.*, 189.

²¹⁴Pissin, 133-134. During a postwar interview, the XI *Fliegerkorps* Chief of Staff *General der Fallschirmjäger* (General of the Paratroopers, equivalent to Lieutenant General) Alfred Schlemm insisted he received no such telephone call.

Crete, flying as fast as possible, in groups no larger than a squadron.²¹⁵ This resulted in a seemingly endless train of transports strung out over the entire distance from Greece to Crete. The shock and awe of a massed assault by thousands of *Fallschirmjäger* so well executed on the first wave was now impossible to replicate; the second wave trickled into their targets piece by piece.

While the XI *Fliegerkorps* struggled to get airborne, the fighters and bombers of von Richthofen's VIII *Fliegerkorps* began their second wave of attacks in preparation for the *Fallschirmjäger* assault. Oblivious of the transports delay, they began their attacks on schedule prior to the 1500 planned drop time by bombing and strafing the airfields at Rethymnon and Heraklion.²¹⁶ No transports arrived at the appointed hour. The effort to keep the Allies' heads down and cover the parachute assault went unexploited.²¹⁷ Though they did their best to make up lost time, the first transports did not arrive over Crete until 1550.²¹⁸ After providing barely twenty minutes of close air support, their covering fighters turned for Greece low on fuel. Clearly visible as they climbed north away from the island was a patchwork procession of Ju-52s headed south low over the sea. Most of the *Fallschirmjäger* jumped without fighter support. Alerted by the fierce strafing and bombing of von Richthofen's crews, the islands defenders had plenty of notice of the coming attack.²¹⁹

²¹⁵Ibid., 135.

²¹⁶Ansel, 298.

²¹⁷Pissin, 132.

²¹⁸MacDonald, 190.

²¹⁹Ansel, 301.

The true tragedy of Student's two-wave attack plan is thus revealed. Without close air support, the lumbering transports strung out in a line hundreds of miles long made excellent targets for the Allied defenders. Arriving as squadrons or less between 1550 and 1840 local time, they provided the defenders ample time to engage each element in-turn.²²⁰ At Rethymnon, a procession of 160 Ju-52s appeared from the east beginning at 1515, disgorging their *Fallschirmjäger* at 400 feet above the coastline to the east of the airstrip and around the neighboring town of the same name. Seven transports fell into the sea, shot from the sky by the waiting Greeks and Australians below; more still turned north in flames.²²¹ The paratroopers of the 1st and 3d battalions of the 2d *Fallschirmjäger* regiment suffered much worse. Many took fire in their harnesses as they jumped from their aircraft; Australian and Greek defenders slaughtered the Germans landing among them.²²²

At Heraklion, where German intelligence optimistically estimated a mere 400 defenders, the story was very much the same. In preparation, the VIII *Fliegerkorps* attacked the airfield for approximately two hours beginning around 1500 local time.²²³ Nonetheless, *Gruppe Ost* suffered losses even before it left Greece. Losses sustained on the Ju-52 landings following the morning attacks forced elements of the 1st *Fallschirmjäger* regiment to stay behind due to lack of aircraft; the 1st jumped 600 men

²²⁰Pissin, 136.

²²¹Shores, 350-351. Losses: at least two Ju-52s from I/KGzbV 172, two from I/LLG 1 and two from I/KGrzbV 1.

²²²Ansel, 298.

²²³Shores, 351. At one point an estimated fifty Ju-87 dive bombers circled overhead, attempting to identify and bomb any target thus far missed.

short.²²⁴ Once the transports departed, they arrived over Heraklion airfield to find a maelstrom of anti-aircraft fire waiting for them. Beginning shortly after 1700, the first of some 240 Ju-52s crossed the coast at 100 feet and climbed to their drop altitude.²²⁵ Due to higher terrain elevations in the east, the typical 300-400 foot drop altitude proved too low to allow aircrews to safely approach, execute the drop, and escape without risking an impact with terrain. As a result, the transports increased their drop altitudes to 650 feet, making themselves and their human cargo slowly floating to earth into easy targets.²²⁶ As they ran the gauntlet of the Allied defenses, fifteen Ju-52s fell; some exploded in mid-air or caught fire while dropping their *Fallschirmjäger*.²²⁷ The Australian artillerymen perched on higher terrain near the airfield “were firing almost horizontally” into the aircraft doors as the German transports flew past.²²⁸ Two-hundred men fell to the ground dead, without firing a shot; the rest landed among some seven battalions of British army, Australian and Greek defenders supported by a battery of artillery and eight tanks.²²⁹ Allied defenders wiped out the entire 2d Battalion of the 1st *Fallschirmjäger* as they

²²⁴MacDonald, 192.

²²⁵Shores, 351.

²²⁶Pissin, 138.

²²⁷Shores, 351. KGzrbV 11 from Topolia suffered more than any other group at Heraklion, losing at least eight aircraft to ground fire.

²²⁸MacDonald, 193.

²²⁹Ansel, 301.

landed in an open field near their defenses.²³⁰ In twenty minutes the Allied guns fell silent; there was no one left to shoot.²³¹

²³⁰Pissin, 138. II/1st *Fallschirmjäger* casualties on the initial attack into Heraklion: twelve officers, 300 men killed; eight officers, 100 men wounded.

²³¹Beevor, 177-178. At Heraklion one of the most terrible stories of the German assault took place. Three brothers of German aristocracy (descendants of the Prussian *GeneralFeldmarschall* Gebhard Leberecht von Blücher of Waterloo fame), *Oberleutnant* [Senior Lieutenant] Wolfgang, *Gefreiter* [Lance Corporal] Leberecht, and *Jäger* [Private] Hans-Joachim *Graf* [Count] von Blücher were all killed at Heraklion in the first twenty-four hours of fighting. The eldest, Wolfgang, was a platoon leader whose unit made a final stand against the Scotsman of the Black Watch on the afternoon of 20 May. Just before they ran out of ammunition, a horseman suddenly appeared with ammunition boxes tied to his saddle. As the horse and rider reached the besieged *Fallschirmjäger*, both were grievously wounded by Black Watch machine gunners, who at first had held their fire due to utter amazement at the sight. As the ammunition was distributed, the elder von Blücher inquired about the rider, to discover it was his younger brother Leberecht, killed in action. The next day Wolfgang and his youngest brother Hans-Joachim were killed. To this day, villagers around Heraklion say that the sight of a ghostly horse and rider is common in the hills outside Heraklion. Beevor, 177-178.

CHAPTER 5

PYRRHIC VICTORY: 21–23 MAY 1941

Information trickled in to the XI *Fliegerkorps* headquarters in Athens on the evening of 20 May, shifting the mood from confidence to dread. As transport squadrons returned from the second assault wave of Operation Merkur, the analysis revealed a much stronger than expected Allied resistance. Though the initial attack occurred with little opposition, the transport fleet sustained moderate damage and limped into Crete at dusk after the second wave.²³² As the 1st Battalion of the 1st *Fallschirmjäger* busily boarded their Ju-52s, a staff officer ran up to the lead pilots aircraft and told him to shut down. The “Last Battalion” remained behind; pending darkness cancelled the drop.²³³

For General Student, the situation slowly clarified. Enemy radio traffic relayed the presence of a heavier than anticipated Allied force on Crete; communication with *Luftwaffe* troops on the island confirmed their failure to secure any of the airfields. Most of the *Fallschirmjäger* on the island spent the evening evading Allied troops or pinned down under sporadic fire.²³⁴ At Maleme in the west, the LLStR held the western and eastern approaches to the airfield, and a foothold on the base of Hill 107; unless they captured the hill, the accuracy of Allied direct artillery fire made any reinforcement at Maleme impossible. The *Fallschirmjäger* there remained hard pressed throughout the afternoon and evening, even fighting off a British tank attack to maintain their positions

²³²Shores, 404. These total loss figures, when compared to the original accounts of the assault, result in differing amounts of aircraft lost or damaged. Shores, 404.

²³³Pissin, 138.

²³⁴MacDonald, 195.

on the western portion of the field.²³⁵ In central Crete, the exhausted and spread out 3d *Fallschirmjäger* held positions to the south of Chania and Suda Bay. The two battalions of the 2d *Fallschirmjäger* at Rethymnon remained pinned down and unable to capture the airfield. In the eastern portion of the island, the decimated 1st *Fallschirmjäger* stubbornly held on against Allied attacks near Heraklion; the once 550-man 2d Battalion now numbered less than fifty. The XI *Fliegerkorps* transport fleet took a beating on the second lift, but survived the first day of Operation Merkur losing twenty-nine aircraft shot down and another fourteen damaged-but-repairable to combat operations. The airlift units also lost additional Ju-52s attempting to land, adding eighteen more transports destroyed by accident.²³⁶

As RAF bombers pounded the Greek airfields packed with Ju-52s in an attempt to stem the German tide advancing on Crete, Student contemplated where to reinforce at first light. He wired Löhr at *Luftflotte* IV headquarters, adamantly refusing a suggestion to withdraw.²³⁷ Message traffic arrived from Goering ordering Student not to move his command post to Crete; in light of Student's severe wounding in Holland during 1940 and desire for firsthand information, this was a reasonable instruction. Student no doubt suspected his career now hung in the balance; he created the concept for Operation

²³⁵Ansel, 307.

²³⁶Shores, 404.

²³⁷MacDonald, 196. Student could not entertain a withdrawal for reasons other than damage to his personal pride; in the examination of research and accounts of the planning effort, no mention is made of a contingency plan for a withdrawal. In all likelihood, the XI *Fliegerkorps* had no plans for evacuation in case of failure; considering the minimal Allied resistance expected, this is not an unlikely assumption.

Merkur after all.²³⁸ Without a full understanding of his perilous position, Student soldiered on.

Though abandoning his men on Crete was unimaginable, reinforcing them seemed an even greater challenge. An unlocated Allied flotilla of warships still prowled the Mediterranean, meaning that reinforcement by sea risked interception and annihilation. Without an airfield, Student could not hope to reinforce or even resupply his command; the airdrop of supplies proved impossible as XI *Fliegerkorps* possessed an insufficient amount of droppable containers, requiring transport aircraft to land on Crete for any relief to arrive *en masse*.²³⁹

In light of this situation, only one course of action remained: the rapid securing and reinforcement of a single lodgment to build combat power and take the island by force. Student decided to focus all of his available forces on one airfield in an effort to tip the balance in favor of the Germans. The shock value of the German attack failed to produce results and forced Student to execute using brute force, as Löhr and von Richthofen originally proposed.²⁴⁰ Upon receiving situation reports from Maleme regarding the forces at Chania and Heraklion, Student decided to focus his *schwerpunkt* at Maleme; its location, closest to Greece, offered the best opportunity for coordinated air cover for the attack.²⁴¹ “If we [could] only get through this night... tomorrow we can do

²³⁸Ibid., 196.

²³⁹Pissin, 151.

²⁴⁰Ansel, 313.

²⁴¹Not to be outdone or forgotten, von Richthofen takes credit for convincing Student that Maleme was the key all along, and that the morning attack should fall there. Ansel, 311-312.

something. Despite a number of doubts and reservations, the choice fell upon the airfield at Maleme,” remembered Student in his memoirs.²⁴²

Unsurprisingly, Löhr at *Luftflotte IV* concurred. XI *Fliegerkorps* received orders from his headquarters before midnight; focus the main effort at Maleme. Löhr ordered the airlift of as many troops as possible to secure the airfield in preparation for continued resupply and reinforcement. He wanted all other resupply operations placed on hold until Student secured a lodgment. Student ordered Ringel’s 5th *Gebirgsdivision* to shift from a planned reinforcement at Heraklion to Maleme, in order to facilitate a German breakout to the east. Once landed, the *Gebirgsjäger* planned to attack toward Chania and Suda Bay permitting the landing of heavy weapons and tanks aboard motorized sea transports. Löhr wanted Student to remain at XI *Fliegerkorps* Headquarters in Athens; he nominated *Generalmajor* Julius Ringel to command the German troops on the island once he arrived. Ringel’s force consolidated the remainder of *Gruppe West*, *Gruppe Mitte* and the 5th *Gebirgsdivision* under his control. Löhr also tasked von Richthofen’s VIII *Fliegerkorps* to cover the reinforcement, and more importantly, find and sink the Allied warships sailing north of Crete.²⁴³

In the early morning hours Student outlined his initial plan to an assembly of commanders, staff officers, and pilots at his Athens headquarters. Before dawn lit the sky, he tasked a reconnaissance element to attempt landing several Ju-52s loaded with ammunition at Maleme; they would subsequently return a feasibility estimate on the possibility of reinforcement at the airfield. Von Richthofen’s fighters would cover this

²⁴²Pissin, 141; Ansel, 311.

²⁴³Pissin, 141-143.

endeavor, and maintain constant pressure on Allied positions for the remainder of the day. The “Last Battalion” of the 1st *Fallschirmjäger* led by *Oberst* Bernard Ramcke, a former *Kriegsmarine* sailor, veteran of World War I and seasoned *Fallschirmjäger*, planned to parachute east and west of the airfield.²⁴⁴ If all went well, the first troops of the 5th *Gebirgsdivision* would land at Maleme starting that afternoon.

Student knew exactly whom to task to start the relief effort at Maleme. Once the meeting broke, he sent for a skilled young pilot recently added to his headquarters staff, *Hauptmann* Kleye. A well-known daredevil whose attitude got him in trouble, Kleye enthusiastically accepted the mission to land under fire at Maleme, resupply the forces there, gather first-hand intelligence, and return to Athens. Aware of the gravity of his task, Kleye hurried to prepare and took off into the darkness.²⁴⁵

While the Germans flailed in the late evening and early morning, Allied General Bernard Freyberg did anything but follow suit. His headquarters near Chania maintained an air of calm and cautious optimism, messaging higher headquarters in Cairo that the German attack suffered terribly and that his intact forces still held all major airfields.²⁴⁶ Before midnight, he received a captured copy of the German operations order for the 3d *Fallschirmjäger*; the situation appeared well in hand. The Allied plan held some four battalions in reserve, ready to counterattack at any moment; by mid-afternoon Freyburg released some of these forces to help block the German advance. Now, in the darkness, his forces consolidated and strengthened their positions, ready to renew the fighting once

²⁴⁴MacDonald, 196.

²⁴⁵Ansel, 315.

²⁴⁶MacDonald, 197.

again at first light. Freyburg's one mistake in this early defense appears insignificant at first examination. By not releasing his forces against the German positions in the waning hours of the afternoon of 20 May, or pressing the attack on the scattered *Fallschirmjäger* that night, Freyburg permitted a brief respite for his opponent and ceded the initiative. The evidence points toward his conviction that the Germans planned a seaborne landing as the primary method of reinforcement, and Freyburg maintained his mobile defenses to counter it accordingly. But no seaborne landings materialized as anticipated. By maintaining four battalions as a reserve force instead of unleashing them against the German positions, Freyburg unknowingly imperiled the Allies probability for a successful counterattack.²⁴⁷

Amidst the darkness near Maleme, a window of opportunity for the German attack peeked open. There amongst the rocks of Hill 107, the 22d New Zealand Battalion attempted to consolidate and reorganize after a hard day's battle. Bombed since before dawn by the VIII *Fliegerkorps*, then attacked from three sides by the LLStR, the New Zealanders requested reinforcement multiple times throughout the afternoon, to no avail. Communication with the higher headquarters of the 5th New Zealand Brigade was non-existent. Neighboring battalions in the vicinity could send no support, and the 22d New Zealand exhausted its reserve attempting to keep the Germans at bay. Hill 107 was untenable if the attack continued come morning.²⁴⁸ At 1800 on 20 May, the 5th Brigade, New Zealand Division finally received an urgent request for help from its 22d New Zealand, stating that "unless aid is sent, the battalion will be forced to withdraw." The

²⁴⁷MacDonald, 197-199; Pissin, 140.

²⁴⁸Ansel, 309.

commander sent a reply that, “if you must, you must” but forwarded two companies to assist nonetheless.²⁴⁹ It was not enough. Reaching the besieged Hill 107 positions of the 22d Battalion after 2200, the reinforcements joined them on a patrol down from the summit in the darkness. After briefly clashing with the Germans below, the New Zealanders fell back to the east and consolidated with the rest of the 5th Brigade. Facing them on the slopes of the hill below, the exhausted men of the LLStR spent the night waiting for a renewed Allied attack that never came. “We would not have been able to withstand an energetic counter-attack in battalion strength,” stated a company commander in a postwar interview.²⁵⁰ Instead, the nervous New Zealanders pulled back, convinced of their peril in an exposed position. They abandoned Hill 107, and with it the Allied defense of Crete.²⁵¹

Shortly after dawn on the morning of 21 May 1941, Allied commanders realized the error in withdrawing from the hill. Freyburg knew he placed too much faith in his brigade commanders, giving them too little guidance other than to counterattack as soon as possible wherever the German attack materialized. “The conclusion is inevitable in that he began with a battle plan which gave his battalion commanders too much choice of role, with too little guidance.” notes Davin in *The Official History of New Zealand in the Second World War*.²⁵² As the first German aircraft landed at Meleme, Freyburg realized his position on Crete was still in jeopardy.

²⁴⁹MacDonald, 200.

²⁵⁰Ibid., 202.

²⁵¹Ibid., 201.

²⁵²Davin, 138.

Shortly after dawn *Hauptmann* Kleye landed his Ju-52 on the western edge of Maleme airfield around 0700 local time, exposed to only sporadic rifle and inaccurate indirect artillery fire. Together with Student's Chief of Staff, *Generalmajor* Alfred Schlemm, and another daredevil pilot who landed on the beach north of the airfield, Kleye found *Generalmajor* Meindl, the commander of the LLStR, lying on a field hospital stretcher, delirious from his chest wound.²⁵³ After offloading his load of ammunition to the beleaguered troops, Kleye hauled the ailing commander aboard his transport and took off for Athens. Despite sporadic resistance, he took off from Maleme without incident; the Germans had enough of a foothold to send in the 5th *Gebirgsdivision*.²⁵⁴

About the time Kleye arrived at Maleme, the remnants of the LLStR ascended the heights of Hill 107 to locate and silence the guns firing on the airfield below; a second unit moved east to completely secure the airfield. As the Allied artillerymen shelled the German positions, *Luftwaffe* aircraft finally appeared overhead. Stuka dive bombers did their best to locate and destroy the Allied guns concealed in the rocks and olive groves, a task that proved tougher than expected.²⁵⁵ Without ground-to-air radios, the German troops relied on swastika-marked flags to denote their positions; several already fell into

²⁵³MacDonald, 204. Kleye noted that in his delirium Meindl repeatedly flashed back to the Norway campaign of April 1940; in the heat of the morning sun on Crete he shivered and muttered, "Things look pretty bad. . . . There's snow, much snow." MacDonald, 204.

²⁵⁴Pissin, 152.

²⁵⁵Ansel, 317.

Allied hands, making locating targets difficult at best.²⁵⁶ The sight on Hill 107 stunned the LLStR when they finally reached the top: the Allies had retreated, leaving the summit bare. At 0715 the LLStR broke through on the radio to Athens, “*Gruppe West* has taken the south-east corner of the airfield and the height to the south.”²⁵⁷ Unlike his counterpart General Freyburg, Student did not hesitate; he ordered the 5th *Gebirgsdivision* to Maleme.

In accordance with his plan, Student launched the transports carrying two *Fallschirmjäger* battalions under the command of *Oberst* Bernard Ramcke to Maleme in the early afternoon of 21 May; the command of all troops at Maleme, including the LLStR fell to him.²⁵⁸ Simultaneously, Student made preparations to move the first battalions of the 85th and 100th *Gebirgsjäger* regiments of *Generalmajor* Ringel’s command from Topolia and Tanagra airfields to Maleme. The renewed close air support attacks of the VIII *Fliegerkorps* began at 1400 with several bombing and strafing passes; 1500 marked the attack hour for the Ramcke’s *Fallschirmjäger*, with the air-landing reinforcements of the 100th *Gebirgsjäger* starting at 1600.²⁵⁹

Ramcke’s first two companies parachuted unopposed on the west of the field; the two companies landing to the east fell among British Maori troops and light tanks. The

²⁵⁶MacDonald, 205, 214.

²⁵⁷*Ibid.*, 203.

²⁵⁸Pissin, 152-153.

²⁵⁹Ansel, 318-319. Kleye’s report to Student convinced him to delay the parachute infantry assault on 21 May 1941 until the afternoon, in order to allow von Richthofen’s VIII *Fliegerkorps* to continue their close air support operation and hunt for Allied artillery. Pissin, 152.

Maori troops gave no quarter, slaughtering an entire *Fallschirmjäger* company as they landed. The bombing and strafing of the VIII *Fliegerkorps* failed to locate or destroy many artillery positions, but it kept the Allied soldiers' heads down just long enough for the transports to exploit the lull in the shelling.²⁶⁰ By the time Ramcke arrived at the command post of the LLStR, the first of sixty-three Ju-52s made its final approach to Maleme, after flying through water spouts kicked up by Allied indirect artillery fire and dodging machine gun tracers on their approach.²⁶¹

Oberst Ulrich Bucholtz, commander of the KGzbV 3 based at Tanagra, Greece, flew the lead Ju-52 to Maleme that afternoon. An experienced airlift pilot, Bucholtz led sixty-three transports packed with Ringel's *Gebirgsjäger*, many experiencing their first flight in an aircraft. The formation clawed its way airborne through the usual Greek dust hovering thick over the airfield just before 1500 local time. Contemplating the arrival into Crete, the veteran airlift pilot decided against droning to the west and approaching the field as the airdrop crews had the day prior. "To hell with that nonsense; go direct, approach under the lee of Cape Spatha, get the planes down quickly and get the troops out," he said in a post war interview.²⁶² Arriving at low altitude from the sea, turning to the south of the airfield to land to the north, he skidded to a stop after a harrowing approach to landing; the first of the *Gebirgsjäger* piled out onto the tarmac and ran for

²⁶⁰Ansel, 320.

²⁶¹MacDonald, 207-208.

²⁶²Ansel, 321.

cover.²⁶³ Bucholtz's aircraft took fire on the ground, wounding the commander's leg as he waited to depart; he later returned to Greece on board another Ju-52, no worse for the wear and with an inspirational war story to tell for years to come.²⁶⁴

As one of the first aircraft on the ground at Maleme, Bucholtz was comparatively lucky. His wingman burst into flames after receiving a direct hit on the approach to landing. More Ju-52s continued inbound to the airfield, with the pilots hurling their aircraft onto the runway in an effort to bring reinforcements to the island. Troops evacuated aircraft as they careened along, some shedding wings, undercarriage wheels and engines from Allied fire and rough "assault" landings. As wreckage on the field piled up, pilots began landing on the beaches once again, with several flipping their aircraft in the sand as they attempted to stop.²⁶⁵ In the fading light at Maleme, the once-shaken *Hauptmann* Snowadzki now returned with his airfield control party and dutifully

²⁶³Ansel, 320. The effects of the sun heating the land faster than the ocean, and the warm air over the land subsequently rising, creates a stiff 'sea breeze' moving from the ocean to the land. During the daylight hours at airfields close to the ocean, pilots expect to land facing out to sea, into the wind, as was the case at Maleme on 21 May 1941. In this case, it created a requirement for an intense, low altitude, high speed course reversal executed under fire as the transports arrived from the north. Without question this difficult tactical approach resulted in the poor landings executed by the Ju-52 pilots at Maleme. Ansel, 320-321.

²⁶⁴Hooten, 312-13. Bucholtz went on to serve as *Lufttransportführer II, Mittelmeer* (Air Transportation Commander, Mediterranean) in 1943; his units suffered terrible losses attempting to resupply Rommel's *Afrikakorps*. Bucholtz's squadrons endured twenty-four Ju-52s shot down by Allied fighter sweeps during a single sortie on 18 April 1943, known as the "Palm Sunday Massacre"; an additional 35 were damaged and crash landed. Losses for the day totaled fifty-nine of sixty-five aircraft out of action. Hooten, 313.

²⁶⁵Pissin, 155. Ironically, and in direct contrast to the Allied reports, the German after action and post-war reports detail that the "presence of mind and skill of the *Luftwaffe* transport pilots" kept losses at Maleme relatively low.

commandeered a British tracked machine gun carrier; he went about dragging and towing burnt out fuselages and wrecked Ju-52s from the landing surface.²⁶⁶ Snowadzki moved eighteen crashed transports that evening, all damaged beyond repair; the next day would test his skill even further.²⁶⁷

The procession continued without letting up; by early evening, two battalions of the 100th *Gebirgsjäger* made the trip to reinforce the German lodgment. Bolstered by these reinforcements, the Germans swept away any further Allied resistance at Maleme; Ramcke commanded 1800 men by nightfall. Freyburg's troops shelled the airfield with indirect artillery fire, the only appreciable resistance of the evening; by 1830, Allied resistance at Maleme eased considerably. Though barely underway, the airlift of reinforcements to a single lodgment had immediate effect; its successful execution determined the outcome of the Battle of Crete.

The success of the initial air-landing troop reinforcement on 21 May started a decided shift in the German operation; tension at Student's headquarters eased.²⁶⁸ Additional reports filtered in on the progress of his campaign, with an equal share of heartbreak and fortune. The *Kriegsmarine* commander in the Mediterranean reported the interception and sinking of the first seaborne reinforcements as the Royal Navy evidently located the German flotilla. Though escorted across the Aegean by Italian destroyers, torpedo boats, and minesweepers, the Maleme-bound element suffered many casualties as they attempted to escape the British warships. The Heraklion-bound element fared better,

²⁶⁶MacDonald, 208.

²⁶⁷Ansel, 320.

²⁶⁸Ibid., 324.

able to reverse course before the Royal Navy intercepted its motorized sailboats and troop transports.²⁶⁹ Few of the intended seaborne reinforcements travelled to Crete until later in the campaign, if they sailed at all. While the sealift largely failed, the persistent threat of German landings from the sea no doubt affected decisions of the Allied command on the island.²⁷⁰

Throughout the next day the commanders of *Gruppe Mitte* and *Gruppe Ost* fought on in their sectors; isolated from the main effort they patiently waited for the Maleme lodgment to expand in their direction. *Gruppe Mitte* settled into a stalemate, unable to advance on Suda Bay or Chania, and barely able to repel Allied counterattacks. *Gruppe Ost* held their tiny piece of ground in front of Heraklion airfield, constantly looking out to sea in hopes of sighting a landing force that never materialized. Stalemate dominated Heraklion, where outnumbered Germans held on with the backing of close air support and eventually, scattered resupply airdrops.²⁷¹ Von Richthofen's VIII *Fliegerkorps*

²⁶⁹Pissin, 159-167. At least 297 men of the III Battalion, 100th *Gebirgsjäger* Regiment died in the Maleme flotilla's engagement with the Royal Navy. The Heraklion flotilla escaped, and with it the men of the II Battalion, 85th *Gebirgsjäger* Regiment. This incident was wildly misreported in the British and German accounts. Von Richthofen himself reported that the entire Maleme element was lost, and with it some 2,300 men. This misreporting accounts for a large amount of the inaccurate casualty figures regarding the first forty-eight hours of fighting during Operation Merkur.

²⁷⁰Pissin, 167. Two Panzer III light tanks arrived on 25 May, along with some heavier artillery pieces. Pissin, 168. Two additional Panzer II light tanks of the 4th *Panzer* regiment arrived on 27 May. Palazzo, 127.

²⁷¹Pissin, 174. The isolated *Fallschirmjäger* at Heraklion and Rethymnon were eventually resupplied through airdrops late on the 22d. These drops were not originally planned due to lack of containers, but innovation and invention prevailed and the troops received ammunition, foodstuffs and medical equipment by parachute over the next forty-eight hours. *Gruppe Ost* would maintain a stalemate situation against the Allied defenders for most of the next week, covered by the airpower of VIII *Fliegerkorps*. MacDonald, 217.

desperately attempted to provide close air support and simultaneously neutralize the Royal Navy operating between Greece and Crete in the Aegean Sea.²⁷²

Gruppe West at Maleme, still under Allied indirect artillery fire, slowly expanded their lodgment as the Ju-52s flowed in throughout the afternoon and evening of 21 May. Landings resumed at first light on 22 May, despite the dangerous approach and artillery fire. The over-tasked VIII *Fliegerkorps*, maintaining pressure at four separate lodgments while searching for and engaging the Royal Navy, failed to find and destroy the troublesome guns at Maleme the previous evening.²⁷³ For their failure, the Allies exacted an incredible toll on the German transports throughout the next day.²⁷⁴

On the morning of 22 May, an Allied force assembled to push the Germans off the airfield, retake Hill 107, and end the threat in the west. Convinced that the previous evenings report of transport landings at Maleme indicated a German withdraw, General Freyburg sent two battalions and three light tanks from the 5th New Zealand Brigade to finish them off. Stepping off before daylight, the New Zealanders ran into the first German positions around the airfield and slowly pushed them back. As they reached the backside of Hill 107, the *Luftwaffe* suddenly appeared, strafing Allied positions at tree-

²⁷²MacDonald, 213-215.

²⁷³For the man destined to become the most decorated German officer of the Second World War, 22 May 1941 was one of the most frustrating days of his career. Hans-Ulrich Rudel, later the most famous and successful close air support pilot in history, spent the day grounded, as his squadron adjutant thought the young pilot too inexperienced to fly in the onslaught against the Allies on the island. “Whenever the aircraft take off on a sortie, I feel like stuffing my fists into my ears so as not to hear the music of the engines. But I have to listen. They are making history out there in the battle for Crete. I sit in my tent and weep with rage,” he wrote in his diary. MacDonald, 249.

²⁷⁴Pissin, 169.

top height and decimating the infantry exposed in the open terrain.²⁷⁵ In sight of the airfield, Allied troops watched the days' first Ju-52 land around 0700; Ringel's *Gebirgsjäger* leapt from the open doors of taxiing aircraft and joined the defensive lines. The commander of the 5th New Zealand Brigade watched the transports landing and smiled to himself, confident the Germans he faced could not wait to evacuate. "Three to four miles distant and amidst dust, it would certainly appear that troops were running to board planes which then took off. Actually, the troops were unloading parties," stated the report of the brigade major. By noon on 22 May, confused reports arrived at the Allied headquarters; wounded and stragging infantrymen streamed back from the Maleme area. The Germans still held the airfield and the heights, with more troops arriving by the minute. Allied commanders suddenly realized they faced a German reinforcement, not an evacuation.²⁷⁶ Freyburg ordered the 4th New Zealand Brigade forward, with the 5th Brigade falling back to act as a reserve in support of a renewed attack that night. The

²⁷⁵MacDonald, 223-224.

²⁷⁶MacDonald, 225-228. Other communications between the Allied 5th New Zealand chain of command shed additional light on the misconceived situation at Maleme. At 0942, the brigade commander Brigadier Hargest relayed to General Freyburg: "Steady flow of enemy planes landing and taking off (at Maleme). May be trying to take troops off [sic]. Investigating [sic]." He followed this message at 1000 with: "From general quietness and because eleven fires have been lit on the drome' it appears as though enemy might be preparing evacuation. Do any reports from other sources show further evidence of this?" Freyburg replied that no information of that kind had been received. No further communication between the 5th New Zealand and Freyburg occurred until a terse message arrived at noon: "Reliable reports state aerodrome occupied, own troops line east side of drome'," indicating the Allies knew their advance was stalled and they faced a heavier than anticipated resistance. The fires Hargest alluded to were the burning wrecks of Ju-52s, not fires deliberately set to obscure Allied observation. Ansel, 359-360.

movement executed too late, ran into the same German resistance, and stopped before it really began; the Allies lost the initiative for good.²⁷⁷

During the afternoon of 22 May, the German air transport fleet moved another two battalions of *Gebirgsjäger* as well as an engineer battalion to Crete. In the process, the un-located Allied artillery firing indirectly exacted a terrible price on the Ju-52s. Due to Maleme's size, only one aircraft landed or took off at a time, making the process of landing a battalion a four-hour ordeal. This provided Allied gunners the opportunity to fire at each aircraft individually.²⁷⁸ The stress of combat operations, multiple lifts, assault landings, enemy defenses, and a harrowing approach-to-landing under fire knocked a significant portion of the fleet out of action over the first forty-eight hours of combat. On 22 May alone, one group lost thirty-seven aircraft (of an authorized strength of fifty-three), another unit lost fourteen. But the airlift forces knew they had a job to complete; without their effort and sacrifice, moving the 150 to 200 tons of required supply and reinforcements daily to Crete was impossible.²⁷⁹ Perhaps as a testament to their determination when facing Allied artillery and surface-to-air fire, Snowadzki's airfield control party spent the day bulldozing some 137 wrecks from the runways at Maleme.²⁸⁰

²⁷⁷MacDonald, 230.

²⁷⁸Pissin, 171.

²⁷⁹Pissin, 209. Moving 150-200 tons of required supplies per day required more than 100 sorties daily using the Ju-52 transport. In actuality the per day sortie rate exceeded 200 as supplies and soldiers ferried to Crete. Thus the descriptions of a constant flow of aircraft arriving, unloading and departing are no doubt accurate; to move that much cargo required an effort on that scale.

²⁸⁰MacDonald, 225.

Student watched as his XI *Fliegerkorps* shrank at an alarming rate, hemorrhaging both men and aircraft; the fight was not his for much longer.²⁸¹

Generalmajor Julius Ringel flew to Maleme on the evening of 22 May to take command of all German forces on the island. Löhr saw him off at Phaleron airfield outside Athens; Student sulked in his headquarters, still not allowed to relocate to Crete. The *Luftwaffe* general told his *Gebirgsjäger* counterpart to secure Maleme, wrestle Suda Bay free to permit the arrival of transport ships, relieve the *Fallschirmjäger* at Rethymnon and Heraklion, and occupy the island; no small task list. Löhr made it clear to Ringel that Crete was his battle to win or lose.²⁸² After arriving and receiving a briefing of the German situation, Ringel spent the night communicating his intent to his commanders in the field. He planned to drive east, feeding reinforcements into the line as they arrived, and proceed in accordance with Löhr's orders.²⁸³ Ringel tasked his forces around Maleme to drive east as fast as possible to secure Suda Bay and prevent any Allied reinforcement from landing there; the troops around Chania and Suda would maintain contact, dig in and await relief. As dawn broke on 23 May, Ringel's mountain

²⁸¹Pissin, 179. By the end of the day on 22 May, the Italians offered to assist in the invasion of Crete. After communication relays from Rome to Berlin to Athens, the Germans finally accepted their offer, and Italian forces landed in the eastern sector later in the week. Pissin, 179-181.

²⁸²Ansel, 362.

²⁸³Ansel, 366. Ringel organized his force as follows: *Gruppe Utz* under *Oberst* Utz with three *Gebirgsjäger* battalions; *Gruppe Ramcke* under *Oberst* Ramcke with all *Fallschirmjäger* at Maleme; *Gruppe Heidrich* under *Oberst* Heidrich with all *Fallschirmjäger* near Chania; *Gruppe Wittman* with all artillery; *Gruppe Schütte* with the engineers.

artillery units and ammunition arrived by Ju-52 to Maleme, completing the organization he needed to take the island by force.²⁸⁴

Over the next 48 hours, Ringel's force turned east and fought its way toward Chania and Suda Bay. The Allied situation grew steadily worse, while VIII *Fliegerkorps* air attacks grew more effective. Though the RAF bombed Maleme on the evening of 23 May, and Freyburg's forces fought for every inch of the island, nothing could stop Ringel's advance or the reinforcements flowing into the airfield. While the total losses to German airlift aircraft tallied 229 by the end of the day on 23 May, the flow of men and materiel never stopped. Ringel's *Gebirgsjäger*, specially trained in mountain warfare in their native Austria, took to the hills against the Allied defenders. Scaling the southern heights to outflank the defensive positions of the Allied infantry time and again, the hardy mountain infantrymen hauled their all of their supplies and artillery with them, fighting by Ringel's motto: "Sweat saves blood."²⁸⁵ By last light on 23 May, Maleme was safely outside of indirect artillery range.²⁸⁶ With just 273 transports still operational, Student kept the operations tempo high to make up for the damaged and destroyed

²⁸⁴Ibid.

²⁸⁵Pissin, 173. British narratives comment that the Allies did not believe the physical deeds accomplished by Ringel's soldiers were possible; they seemed beyond the levels of human endurance, able to operate with little food or water, able to scale mountains, fight in the terrible heat and defeat an entrenched enemy. The commentary is indicative of the expert soldiers under Ringel's command in the 85th and 100th *Gebirgsjäger* Regiments. Pissin, 188.

²⁸⁶Ansel, 368. On the afternoon of 23 May, VIII *Fliegerkorps* Me-110's and Me-109s transferred to the crowded Maleme airfield in order to shorten their travel time and expand their loiter over the target areas providing close air support. They operated from Maleme for the remainder of the battle.

aircraft.²⁸⁷ The inevitable end of the ground battle took shape; as the Allies fell back, Ringel breathed a sigh of relief, “Now nothing more can happen.” Freyburg understandably took a different view.

At this stage I was quite clear in my own mind that the troops would not be able to last much longer against the continuation of air attacks... We were gradually being driven back on our base areas, the loss of which would deprive us of our food and ammunition... I really knew at this point that there were two alternative, defeat in the field and capture, or withdrawal.²⁸⁸

By the morning of 24 May, the German and Allied commanders on Crete separately arrived at the same conclusion: the fall of Crete was inevitable.

²⁸⁷Pissin, 171. *Generalmajor* Conrad, Commander of the XI *Fliegerkorps* transportation fleet, documented the daily “mission capable” total of Ju-52 aircraft in his war diary. Though the numbers do not specifically break down how the aircraft were destroyed or knocked out of action, the overall totals by day illustrates the casualties endured by the airlifters during the Battle of Crete. Conrad lists the operational availability totals as follows: 20 May-493 aircraft, 21 May-443 aircraft, 22 May-322 aircraft, 23 May-273 aircraft, 24 May-263 aircraft, 25 May-240 aircraft, 31 May-185 aircraft. Pissin, 214.

²⁸⁸Ansel, 374.

CHAPTER 6

OUTCOMES AND ANALYSIS OF OPERATION MERKUR

Once started, the Allied capitulation on Crete progressed quickly. By the morning of 24 May 1941 the German forces in western and central Crete finally established contact, linking their areas of operations together.²⁸⁹ The next day General Student gratefully received permission to move his headquarters to Crete, and joined Ringel on the island as his troops fought toward Chania. On 26 May the 141st *Gebirgsjäger* Regiment arrived at Maleme to assist in cutting off the Allied retreat, and bring about a quick end to the campaign. The next day Chania fell; Suda Bay soon followed.²⁹⁰ All the while the Allies fell back, across the spine of the mountains on the southern coast of Crete, to the tiny fishing port of Sphakia. There General Freyburg ordered the evacuation of as many men as possible to proceed nightly, as soon as dusk chased away the prowling *Luftwaffe* fighters and bombers.²⁹¹ Thousands of Allied soldiers escaped each night in a masterful evacuation operation, while thousands more fought the Germans for every inch of ground in an effort to allow the escape of their comrades.²⁹² On 1 June 1941 the struggle for Crete officially ended when the remaining Allied troops surrendered. German

²⁸⁹Pissin, 180. Three *Gebirgsjäger* regiments now operated on Crete (85th, 100th, and 141st).

²⁹⁰*Ibid.*, 185-188.

²⁹¹Hooten, 86. Though the VIII *Fliegerkorps* inflicted some casualties on the evacuation ships, they did take care to avoid hospital ships and columns of wounded men retreating under Red Cross flags. In one case, a single Me-109 circled over such a column to ensure its protection, ready to chase away any German aircraft intent on inflicting further losses.

²⁹²Pissin, 195-196.

troops on the island rejoiced, enjoyed captured British rations, and gathered up the spoils of ten days of battle. Suda Bay remained closed to sea traffic due to the wrecked Royal Navy ships littering its bottom, so the airlift of supplies continued for weeks. Until 30 June 1941 the Ju-52s flew 200 to 240 supply flights per day, despite a decided downturn in operations tempo for the ground troops.²⁹³ Airlift continued as the German main source of supply.

As quickly as the battle for the island closed, operations shifted elsewhere. Von Richthofen's VIII *Fliegerkorps* rapidly moved north to Poland to prepare for Operation Barbarossa, set to begin in just three weeks' time; X *Fliegerkorps* from Sicily and Italy replaced them. General Ringel and his 5th *Gebirgsdivision* maintained partial control of the island, with the late-arrived Italians administering a portion as well.²⁹⁴ In the months to follow, the Germans executed thousands of Cretean partisans and civilians in a terrible effort to subjugate the populace and secure the island.²⁹⁵ Remnants of the XI *Fliegerkorps* Ju-52 transport fleet took off for the Russian front and Italy. In the east they provided airlift and resupply in preparation for the opening stages of Operation Barbarossa, eventually moving the 7th *Flieger* division north to Leningrad.²⁹⁶ Most

²⁹³Morzik, 53.

²⁹⁴Ansel, 421-422. When Ringel's administration of Crete came to a close at the end of 1941, the citizens of Heraklion bestowed an honorary citizenship on the general, and named a plaza in the town for him as well. The people of Crete did not treat his successors to the same honors.

²⁹⁵MacDonald, 302; Beevor, 235-237. The Germans initially justified these killings on the pretense that hundreds of *Fallschirmjäger* were murdered during the assault by roving bands of civilians who killed wounded Germans with kitchen knives and shotguns. During the occupation 3,474 Cretans were executed

²⁹⁶Edwards, 99.

served in support of the *Afrikakorps*' operations in North Africa, once again enduring horrific casualties in an effort to maintain the flow of supplies due to a lack of sea control in the Mediterranean.²⁹⁷ Student's 7th *Flieger* division garrisoned Crete for a time before returning to Germany to await orders for a jump into Russia or Malta. The division's survivors, including the *Luftlande Sturm Regiment*, 1st and 3d *Fallschirmjäger* regiments, engineers, and artillery then moved east in September 1941, entering action in the siege of Leningrad. The decimated 2d *Fallschirmjäger* regiment stayed in Germany training replacement units before departing to North Africa in the spring of 1942.²⁹⁸

Both sides endured terrible losses during the Battle of Crete. The British, New Zealander, Australian, Greek and colonial troops on the island suffered heavily; 1,751 Allied soldiers lay dead. Though some 16,863 Allied troops escaped the island, the Germans captured 12,254.²⁹⁹ The Allies lost thirty-three aircraft and thirty tanks in battle, in addition to twenty-four ships sunk by the VIII *Fliegerkorps* at Suda Bay and in the open ocean near Crete; several more suffered severe damage.³⁰⁰ Close air support and

²⁹⁷The "Palm Sunday Massacre." Hooten, 312-313.

²⁹⁸Franz Kurowski, *Jump into Hell* (New York, NY: Stackpole Books, 2010), 188.

²⁹⁹Pissin, 216. The evacuees included King George of the Hellenes, the King of Greece. Palazzo, 143.

³⁰⁰Pissin, 165-166, 216. As testament to success of German operations to clear the waters surrounding Crete of the Royal Navy, VIII *Fliegerkorps* sunk eight cruisers, ten destroyers, five patrol-torpedo boats and one submarine. They severely damaged one aircraft carrier, three battleships three cruisers, eight destroyers and one transport. The Alexandria Squadron eventually retreated to the Egyptian port, desperately short of ammunition after several days of repeated engagements fending off the attacks of the VIII *Fliegerkorps*.

interdiction bombing by von Richthofen's airmen kept the Allies at bay for the duration of the German operation on the island.

The impact of German casualties during Operation Merkur crippled the entire XI *Fliegerkorps* in both personnel and machines. The Germans suffered approximately 5,415 casualties of the nearly 22,000 men engaged on Crete (25 percent). The 7th *Flieger* division alone suffered 1,653 dead, 1,441 missing (presumed killed), and 2,046 wounded of its approximately 11,000 troops engaged (47 percent). The 5th *Gebirgsdivision*, airlifted as reinforcements to the secured Maleme airfield, suffered considerably less; the mountain troops lost 262 dead, 318 missing and 458 wounded of approximately 9,000 troops engaged (12 percent).³⁰¹ Incredibly, the Ju-52 squadrons lost 151 aircraft (143 destroyed, eight missing and presumed lost at sea) with another 120 damaged but repairable (out of action); the airlift fleet suffered a total of 271 aircraft casualties of the 502 Ju-52s involved in the campaign (54 percent).³⁰² Fliers from these units endured 56

³⁰¹Pissin, 209, 211. The Germans transported some 3,173 wounded off the island via airlift. The Ju-52s litter capacity is twelve patients; by assuming all patients airlifted to Greece were litter-bound (they were not), that amounts to 265 sorties to carry wounded off the island. In all likelihood, significantly more sorties returned from Crete with medical evacuation patients aboard, but no records exist of cargo airlifted *from* Crete, merely a total of evacuated personnel. Fred T. Jane, *Jane's Fighting Aircraft of World War II* (London: Random House, 2001), 170-171.

³⁰²Pissin, 213-214. An interim report stated that on 31 May 1941, only 185 (a running loss total of 317) Ju-52s were considered operational; many of those temporarily out of action eventually returned to duty, making the final overall figure for losses stabilize at 271 out of 502 aircraft. All DFS-230 freight gliders were also destroyed or unusable upon landing in combat on 20 May. Despite their terrible losses, the XI *Fliegerkorps* airlift to Crete was nonetheless impressive. During the ten day campaign, the Ju-52s of Student's command airlifted over 22,000 soldiers, 711 motorcycles, 353 light artillery pieces, 5,358 supply drop containers, and 2,403,435 lbs of other supplies to Crete. Additionally, they evacuated 3,173 wounded personnel (Allied and German) to Greece for medical attention. In total, the Ju-52 fleet flew over 1,485,532 miles between Athens and Crete. Pissin, 209.

aircrew killed, another 129 missing, and 90 wounded.³⁰³ Losses suffered by the transportation squadrons during Operation Merkur, in both men and machines, haunted the German airlift force for the remainder of the war.

The German victory spurred critique and examination of the operations on Crete by both the Axis and the Allies. “Our victory was no victory,” Adolf Strach of the 2d Battalion, 2d *Fallschirmjäger* Regiment wrote in his war diary; the victory was a hollow one at best.³⁰⁴ At a 19 July 1941 awards ceremony to recognize the twenty-five Knight’s Cross honorees from the battles at the Corinth Canal and Crete, Hitler admitted his astonishment at the losses suffered during Operation Merkur to Student. He told the General in confidence: “Of course you know the day of the parachute troops is over. The parachute weapon depends on surprise, and that surprise factor is now gone.” The comment crushed the proud *Fallschirmjäger* general; he disagreed, vowing to soldier on and prepare for operations in Russia and Malta. Despite the otherwise lavish congratulations and a hero’s welcome for his more than 5,000 Iron Cross recipients and veterans proudly sporting the white “KRETA” cuffband, Student received no decoration for succeeding in Operation Merkur.³⁰⁵ He remembered, “The battle carries bitter

³⁰³Shores, 403. Von Richthofen’s VIII *Fliegerkorps* did not escape unharmed, losing 172 killed and 143 missing along with ninety-seven fighters and bombers across the nearly month-long air campaign (15% of aircraft engaged); the VIII *Fliegerkorps* lost fifty-five fighters (Me-109, Me-110), twenty-three bombers (Ju-88, He-111, Do-17) and nine Ju-87 Stuka dive bombers.

³⁰⁴James Lucas, *Storming Eagles: German Airborne Forces in World War II* (Edison, NJ: Castle Books, 2004), 94.

³⁰⁵Lucas, 362. Goering authorized wear of a gold-leaf accented white cuff band with ‘KRETA’ emblazoned across the middle for veterans of the Crete campaign.

memories. I miscalculated when I suggested this attack, which resulted in the loss of so many German airborne landing forces, which I had created.”³⁰⁶

Lamentations of the losses suffered on Crete aside, the Germans seemed to place the battle in their periphery as quickly as possible; for the German high command Crete was a sideshow, a novelty. Despite leading the planning and execution of Operation Merkur, and hailing its success as a *Luftwaffe*-led attack, no *Luftwaffe* command-level (*Oberkommando der Luftwaffe* or OKL) analysis of the battle took place. Critiques and lessons learned never materialized in any official sources other than unit after action reports and personal memoirs.³⁰⁷ Seemingly because Hitler decreed the *Fallschirmjäger* finished, there was nothing to learn from Operation Merkur.

Publically, however, the Germans lauded Crete as the epitome of success. Hitler’s propaganda minister Dr. Joseph Goebbels printed a piece titled “*Kreta als Beispiel*” (Crete as an Example) to punctuate the threat the German *Fallschirmjäger* posed.³⁰⁸ They had attacked and captured an entire island, some 3,200 square miles of territory, a monumental feat of German daring and courage. During the Battle of Britain, Hitler stated: “There are no impregnable islands.”³⁰⁹ Now this prediction rang true. Ju-52 transport crews wore the slogan like a badge of honor, shortening it to “There are no

³⁰⁶MacDonald, 301.

³⁰⁷Pissin, 204. XI *Fliegerkorps* and *Luftflotte IV* reports on the battle were the highest level German after-action reports produced.

³⁰⁸Ansel, 434.

³⁰⁹*Ibid.*

more islands,” and painting it large on the sides of their aircraft, complete with Hitler’s signature.³¹⁰

Despite the boastful nose-art, the XI *Fliegerkorps* Ju-52 squadrons scrambled to mend their ruined force following the hollow victory of Operation Merkur. The most important outcome of the Battle of Crete for the *Luftwaffe*’s airlift force occurred in pilot and aircraft production. Combined with the losses suffered in support of Barbarossa, 1941 marked the first year in which German Ju-52 transport aircraft losses exceeded production.³¹¹ To offset losses and ensure the subsequent reconstitution of the transportation fleet, the *Luftwaffe* transferred Ju-52s from its pilot training schools to replenish the active airlift squadrons. Robbing these schools of their valuable training aircraft as a stop-gap measure immediately effected the quality and duration of recruit training. Due to its availability in Germany and ease of operation, the *Luftwaffe* used the Ju-52 to teach pilot trainees the mechanics of multi-engine aircraft performance, and introduce flight under reduced visibility and instrument conditions. With reduced training aircraft available, the *Luftwaffe* multi-engine pilot training pipeline suffered. Proficiency in night operations rapidly deteriorated, further creating a “fair-weather” air force largely incapable of operating well under extreme conditions. Perhaps most relevant to the losses suffered during the forced-entry operation at Crete, less Ju-52 training aircraft on hand meant that student pilots received inadequate or in some cases non-existent large-aircraft

³¹⁰Ibid., 433.

³¹¹Morzik, 40.

formation training, making a repeat of the massive airlift of parachute infantry all the more difficult in the future.³¹²

To replace qualified aircrew from the transportation squadrons, *Luftwaffe* high command initially ordered the release of some instructor pilots from duty at the ‘C-Schools’-the German equivalent of advanced pilot training-and cut out additional student training in instrument landings. *Luftwaffe* commanders disregarded the difficulty of the transportation aircrew’s task, believing that personnel flying Ju-52s simply required basic qualification in aircraft performance and navigation in order to move cargo from point to point. As a result of the shortened training program, graduating student pilots assigned to the transportations squadrons were of much lower quality than the veteran “special duty bomber squadron” pilots they replaced.³¹³ This negligent response to combat losses epitomized the *Luftwaffe*’s downward spiral of reduced quality at pilot training schools which plagued the force for the remainder of the war.

Crete’s after effects haunted the German airlift force for years to come; for the rest of the war, production of airlift aircraft never exceeded combat losses. The cumulative *Luftwaffe* losses created an airlift shortage in all theaters by the spring of 1942. Germany did not attempt further large scale airdrops (brigade-sized or larger) of parachute infantry, though several significant airlift and resupply operations did occur.³¹⁴

³¹²Ibid., 34.

³¹³Ibid., 33-34.

³¹⁴Morzik, 65-66. One of the largest airdrop operations after Crete was the 17 December 1944 drop of the *Oberstleutnant* von der Heydte’s *Fallschirmjäger* in the opening of the Ardennes offensive. Sixty-seven Ju-52s poorly executed the drop, hindered by darkness, navigational problems, terrible weather and widespread

Of these, the Stalingrad airlift was the most affected by the losses endured throughout the first two years of the war. Once the Russians encircled the German 6th Army near the Volga River, the *Luftwaffe* received the task to maintain the force by aerial resupply. The Quartermaster General requisitioned all available airlift aircraft (including Ju-52s) from any training school, ministry, and staff, assembling a total of only 600 aircraft. Goering demanded a daily delivery of 500 tons of supplies, but weather, Russian defenses, and lack of aircraft ensured the airlift forces never reached this goal.³¹⁵ On the *Luftwaffe*'s best day, 19 December 1942, the airlift forces achieved just over half the tonnage required, delivering just 290 tons. Weather, inadequate airfields, and lack of air superiority all affected the Stalingrad airlift, but the operation fell short of its intended goal due to the *Luftwaffe*'s inadequate transportation fleet. The cumulative effects of airlift combat losses and insufficient production for the first three years of the war helped seal the fate of the 6th Army.³¹⁶

Despite the gallantry displayed and the losses endured by the men of his XI *Fliegerkorps*, the monumental execution of the first and only *Luftwaffe*-controlled campaign during the war earned General Student no laurels with OKW or German leadership. He never again convinced Hitler to employ the *Fallschirmjäger* in battle as he had at Crete. With Operation Barbarossa underway, post-Russia designs floated around

inexperience. Though the *Fallschirmjäger* managed to create confusion in the Allied ranks, they only achieved a marginal success at best.

³¹⁵Ibid., 185-186.

³¹⁶Ibid., 200-201.

OKW and OKH headquarters once again.³¹⁷ The best fit for the employment of parachute forces, now in the process of reconstitution and expansion, was to strike at Malta as part of the initial actions to “close the Middle Sea.”³¹⁸ With Malta secure, the Germans could move against Gibraltar, Cyprus, or Egypt, making them masters of the Mediterranean and North Africa.³¹⁹

Known as Operation Hercules, the assault on Malta maintained the flavor of Operation Merkur, but added even more *Fallschirmjäger*, support aircraft, and German-trained Italian parachute infantry. *Luftwaffe Feldmarschall* Albert Kesselring, Commander in Chief, German Armed Forces – South (*Oberbefehlshaber Süd*) worked with Student to propose the Hercules plan to Hitler. Strikes on the island began on 2 April 1942, but by 29 April the Führer indicated he favored supporting Rommel in North Africa before striking Malta.³²⁰ Despite the setback Kesselring and Student continued planning. Until 21 May 1942, Student did not truly believe Hitler would deny him a chance at redemption for Crete. At a conference at Hitler’s headquarters nearly a year to the day after his first assault on a Mediterranean island, Student stepped through the timetables, preparations, status of defenses and Italian paratrooper training for the assault

³¹⁷Ansel, 434-435. As early as February 1941 OKW staffers investigated the feasibility of follow on operations once the Russian campaign was complete. These included invasions of Gibraltar, India, and even Afghanistan.

³¹⁸*Ibid.*, 478.

³¹⁹*Ibid.*, 478-479.

³²⁰Ansel, 478-479. Operation Hercules included the airlift of 30,000 *Fallschirmjäger* by over 600 transport planes, including Ju-52s, the new larger Gotha 242 gliders, and the massive six-engined Me-323 *Gigant* [Giant], able to lift 130 *Fallschirmjäger* or 21,500 lbs of cargo (three times the load of a Ju-52). Edwards, 47.

into Malta; the Führer grew more agitated by the moment. He reminded Student of his reluctance to use the parachute troops after Crete. Growing weary of the briefing, he listened until he could stand it no longer, stating: “I am not of a mind to let the attack on Malta be executed. As soon as British sea power returns, the Italian Fleet will haul off and you will be sitting on the island alone with your *Fallschirmjäger*. What then?”³²¹ Student stood dumbfounded; his redemption died with the dismissal.

Much like their leadership, the aftermath of Crete presented the *Fallschirmjäger* with a stark view of reality. As originally envisioned by General Student, the *Luftwaffe* combined arms force of parachute and air-landing infantry, specialized weaponry, gliders and transports effectively ceased to exist after Crete. This is not to imply the *Luftwaffe* disbanded the *Fallschirmjäger*; quite the opposite occurred, but for the remainder of the war they fought as infantry. Over the course of the next four years the Germans expanded their parachute infantry divisions rapidly; ironically, new *Fallschirmjäger* no longer required jump training.³²² These new units operated mostly as infantry battalions, comprised of recruits and smaller elements of jump-trained veteran cadre for special tasks, such as raids.³²³ The two divisions of the XI *Fliegerkorps* formed the basis for this expansion, and received the new designation ‘I *Fallschirmkorps*’ [parachute infantry

³²¹Ansel, 481.

³²²Rottman, 46-47. For the remainder of the war only approximately 20% (just over 30,000 of the 160,000 recruits) of the *Fallschirmjäger* forces completed jump training following the reorganization and reconstitution of the force after Crete. Rottman, 46-47.

³²³Ansel, 432.

corps].³²⁴ The Germans then raised several regiments and divisions of *Fallschirmjäger*, organizing them into the II *Fallschirmkorps* by May 1944.³²⁵ In September the 1st *Fallschirm-Armee* [parachute infantry army] entered service on the Western Front serving as an infantry army.³²⁶ Student briefly commanded this unit, offering stubborn defense against Allied paratroopers during their Operation Market-Garden campaign that fall.³²⁷ He stood on the veranda of his headquarters in Holland on 17 September 1944 watching the vast Allied airlift armada move across the sky to drop their paratroopers and remarked to a staff officer, “If only I ever had such resources at my disposal.” Student never again sent his entire division into the air.³²⁸

Despite their reluctance to conduct an official inquiry into the Battle of Crete, and Hitler’s insistence that the day of the parachute infantry was passed, the Germans

³²⁴In April 1943 the 7th *Flieger* and 22d *Luftlande* divisions were redesignated the 1st and 2d *Fallschirmdivision*. In January 1944 the XI *Fliegerkorps* was redesignated the 1st *Fallschirmkorps* and sent to operate in Italy. Lucas, 346.

³²⁵The II *Fallschirmkorps* included two newly raised units, the 3d and 5th *Fallschirmdivisions*, and operated on the Western Front from May 1944 until the end of the war. Lucas, 348-350.

³²⁶Lucas, 345-360. In total, Student raised some 160,000 parachute troops in the years following Crete. Though his airborne force expanded in the aftermath of Operation Merkur, they were never employed in a similar role again. For a complete narrative of the formation and organization of the German *Fallschirmjäger* regiments, divisions, corps, and army, see James Lucas’ book *Storming Eagles*. The text includes an entire chapter on the formation and employment of these forces following Crete, which offers details outside the scope of this research and sheds light on the expansion of the German parachute forces as a whole. An excellent synopsis of the unit histories of the *Fallschirmjäger* regiments is detailed in Edwards’ book *German Airborne Troops 1936-45*. Edwards, 135-144.

³²⁷Hockley, 132-139 .

³²⁸Sir John Hackett, “Student: Colonel General Kurt Student,” in *Hitler’s Generals*, edited by Correlli Barnett (New York, NY: Grove Press, 1989), 476.

nonetheless documented many lessons from the assault. Firstly, the primacy of air superiority enabled German operations during the campaign; it set the conditions for the forced entry of vulnerable transport aircraft into the contested environment on Crete, allowing the initial parachute infantry assault and the follow on airlift of reinforcements.³²⁹ It is highly likely that any appreciable Allied counter-air effort or combat air patrols against the initial airdrops or subsequent Maleme reinforcement airlift would have disrupted the entire operation, if not intercepted and destroyed the Ju-52 fleet altogether.³³⁰ German air superiority kept that from occurring.

Air superiority enabled freedom of maneuver to the fighters and bombers of von Richthofen's VIII *Fliegerkorps*, who provided vital close air support to the *Fallschirmjäger* on the island, as well as attacked the Royal Navy in the waters surrounding Crete.³³¹ Lacking sufficient artillery other than light field guns and recoilless mountain howitzers, the *Fallschirmjäger* relied on close air support to provide them with adequate firepower. Close air support enabled German troops on the ground to maneuver and attack Allied positions under the cover of marauding aircraft acting as flying

³²⁹Sadler, 313.

³³⁰U. S. War Department, Military Intelligence Division Report 370.03, *The Airborne Invasion of Crete* (Washington, DC: Government Printing Office, 1941), 256. Many Allied strafing and bombing attacks occurred on German positions, particularly at Maleme airfield, but the RAF fighters and bombers could not loiter or coordinate with nearby Allied forces on the ground; the attacks were mostly slashing, hit-and-run affairs that did little appreciable damage, though the harassment had some effect on German operations.

³³¹Pissin, 203.

artillery.³³² This system required air-to-ground communications to fully exploit the advantages of close air support and air superiority; the Germans did not adequately employ radio communications during the campaign, but fixed this oversight during Operation Barbarossa. Close air support played a vital role in the maneuver and success of German ground forces, and to offset the lack of firepower organic to the *Fallschirmjäger* formations.

In order to exploit the advantage of air superiority and close air support, forced entry operations require accurate and timely intelligence. German XI *Fliegerkorps* intelligence officers failed to produce an accurate picture of the Allied operation on Crete. During the weeks leading up to the assault, German intelligence officers grossly underestimated the composition of the islands' Allied garrison. The lack of anti-aircraft fire encountered by the VIII *Fliegerkorps* in the days prior to the attack practically encouraged their false reporting of enemy activity.³³³ Overall, the intelligence personnel performed poorly during Operation Merkur.

The Germans expected minimal Allied resistance on the island based on their initial assessments and previous success in Norway and Holland. Given Student's initial reluctance to mass his forces at one lodgment and execute a well-supplied breakout, one wonders how an accurate intelligence estimate of the Allied force on Crete would have affected the planning and execution of Operation Merkur. Analysis of all pre-assault accounts suggest that Student's overconfidence in previously successful tactics,

³³²U. S. War Department, Military Intelligence Division Report 370.03 *The Airborne Invasion of Crete*, 21.

³³³Pissin, 221-222.

regardless of enemy force strength estimates, determined his initial concept of operations.³³⁴ Considering his dismissal of the late-arriving accurate enemy force intelligence on the evening of 19 May, Student was unlikely to change his plan regardless of the conditions. Nonetheless, lack of accurate and timely intelligence affected force dispositions, plans of attack, and even aim points and drop zone selection for aircrews.³³⁵ Accurate and timely assessment of an adversary's capabilities and disposition must inform operational planning; without accurate intelligence, planners operate in a vacuum.

Without question, forced entry operations are not ad hoc undertakings. Planners cannot dismiss the logistical considerations of launching a massive airlift to insert a large force of paratroopers into a contested environment. In Operation Merkur the Germans suffered from a lack of adequate fuel transportation and storage, shortages of drinking water, inadequate airfields, poor or non-existent airfield operations equipment, and shortages of droppable supply containers. Individually, these factors are manageable setbacks, overcome by hard work and ingenuity; together, they are a recipe for delays, indecision, and disaster. Operation Merkur suffered from the over-planning of combat operations and an under appreciation of the detailed logistical planning which enables combat success, not to mention an ever-present competition for assets and support created by parallel preparations for Operation Barbarossa.³³⁶ The planning for the logistical details of an operation of the size and scope of Merkur (a forced entry operation) should far eclipse the planning for combat.

³³⁴Tugwell, 116.

³³⁵Quarrie, 88.

³³⁶Pissin, 223.

As a matter of unity of effort, forced entry operations require synergy and surprise. The inadequacy of combat support equipment (i.e. fuel trucks) and airfield preparation led to the second attack wave on the afternoon of 20 May arriving late and strung out. Without coordinated close air support, the transports attacked alone, dropping their human cargo over a period of nearly two hours. The Ju-52s, delayed by manual refueling and the ever-present Greek dust at their departure airfields, arrived ninety minutes late over their targets in central and eastern Crete. Due to the late arrival, von Richthofen's fighter force provided inadequate close air support, resulting in the Ju-52s and their *Fallschirmjäger* suffering terrible casualties.³³⁷

Furthermore, it is arguable that the second assault on 20 May 1941 should never have occurred as planned. The inadequate number of airlift aircraft assigned to XI *Fliegerkorps* necessitated the second wave in order to move the remainder of the 7th *Flieger* division to the island. This handicap, when combined with the effects of delays and catastrophes befalling the support units launching the Ju-52s from Greece, and the fact that Allied defenders were alerted by the morning assault, ensured that the second attack lacked any surprise factor whatsoever. Given the Allied dispositions and lack of German close air support, it is miraculous that so many *Fallschirmjäger* survived the afternoon attacks on Rethymnon and Heraklion airfields.³³⁸ Due to the inherent vulnerability of airborne forced entry operations, synergy and surprise are paramount to enable the initial assault.

³³⁷Ibid., 223.

³³⁸Pissin, 223. According to Pissin, who was a participant in the Battle of Crete, if Student knew the full extent of the terrible casualties incurred on the afternoon of 20 May 1941, it is likely he would have seriously considered withdrawal.

When the German forces arrived over their designated targets, the transports flew into a maelstrom of anti-aircraft fire. Though preparation of the island via the bombing and strafing attacks of the VIII *Fliegerkorps* continued for weeks prior to the final assault, they proved inadequate; the majority of Allied artillery and anti-aircraft defenses escaped unharmed. General Student in several postwar accounts laments the design of Operation Merkur's parachute assault, stating emphatically that jumping into contested environments, such as enemy-held airfields, will not work in the future. Instead, he offers a plan much like that originally proposed by General Löhr prior to the attack. Student intimates that the coup de main-styled assault, where his *Fallschirmjäger* simultaneously appeared at multiple objectives (airfields), led to the near destruction of the *Fallschirmjäger* on Crete.³³⁹ Student relied on surprise to win stunning victories in Norway, Denmark, at Eben Emael and the Corinth Canal. Yet, in Crete his tactic failed.³⁴⁰ Why?

In the case of Crete, the coup de main strike-arriving everywhere at once-proved impossible due to lack of adequate airlift; Student lacked the ability to transport his entire division to its many destinations at once. This meant that his "oil spot" attack of multiple objectives over the course of an entire day, though originally designed to surprise and paralyze the Allied defenders, left his force isolated, pinned down, and fighting against an enemy alerted by earlier attacks.³⁴¹ The Battle of Crete reinforced the belief that parachute and air-landed forces are inherently vulnerable once they arrive at their

³³⁹Ibid., 226.

³⁴⁰Tugwell, 116.

³⁴¹Ibid., 104.

destination in a forced entry operation, particularly if they are not inserted *en masse*.³⁴² For airborne operations, jumping straight into contested environment without sufficient support or combat force invites disaster; a “right sized” force is thus in greater danger than an overwhelming force.³⁴³ Perhaps more importantly, in previous assaults a rapid reinforcement or the advance of German army panzer divisions quickly relieved Student’s forces fighting for their lives in an isolated lodgment. Such relief did not occur on Crete, with one exception: Maleme.³⁴⁴

Therefore, the final lesson for the Germans in Operation Merkur is that of the massed employment of combat power. During planning, General Student fell victim to the allure of previous operations, and intended to take the island of Crete in a rapid assault at the major airfields spread across a 160-mile front. As a result, his forces acted independently, without the ability to aid one another, and with no immediate support, other than that available from the VIII *Fliegerkorps*. In an attempt to maintain battlefield flexibility, he intended to reinforce at Heraklion and Maleme via seaborne landings followed with airlift to whatever lodgment offered the greatest chance of success. After the botched execution of the first day’s assault and the interception of his seaborne reinforcements, Student changed tactics to reinforce a single *schwerpunkt*, the main effort to seize Maleme airfield. Once the *Fallschirmjäger* general put the entire weight of his main effort into reinforcing a single lodgment, the tide of battle turned. But this factor alone did not guarantee success. Supporting the main effort of an attack at a single

³⁴²Galvin, 316.

³⁴³Pissin, 227.

³⁴⁴*Ibid.*, 225-226.

lodgment can still invite disaster if the lodgment is contested. The Maleme reinforcement succeeded because the lodgment was clear of any appreciable enemy resistance. Once German reinforcements massed at the airfield, securing the island was a matter of building enough combat power to enable the breakout east. A lack of airlift caused the initial failures of Operation Merkur; that same airlift force subsequently saved the Germans from certain defeat. Without the ability to mass forces in a relatively secure environment, the reinforcement at Maleme, and likely the entire operation, would have failed.

Unbeknownst to the Germans, the Allied benefitted the most from the results and observations from Operation Merkur.³⁴⁵ They compiled their own versions of the events on Crete, and subsequently drew their own conclusions and lessons. Ironically, though the Germans bragged of their triumph and expanded their parachute infantry training, they never again employed the *Fallschirmjäger* in a large-scale parachute assault operation. The Allies took a different view of Operation Merkur. British General J.F.C. Fuller robustly opined on the impact of the Battle of Crete:

As regards sheer daring, the air attack on Crete is the most outstanding of the entire war. An operation of this sort had never been attempted before and was never tried again afterwards. It was not really an air attack, but rather an invasion from the air, with the invading army approaching by air rather than by land or water. Its most significant characteristic was the fact that the forces involved were moved by air transport—the lifting of an entire army into the air, thus assuring its complete independence of highway and railway networks and of the need for cross-country marches.³⁴⁶

³⁴⁵Pissin, 219.

³⁴⁶*Ibid.*, 201.

The British thus expanded their own airborne training, with the authorization signed by Prime Minister Winston Churchill before the Battle of Crete concluded.³⁴⁷ In a letter to General Ismay dated 27 May 1941, Churchill uncharacteristically offers his *mea culpa* for failing to realize and support the capabilities of an airborne force:

I feel myself greatly to blame for allowing myself to be overborne by the resistances which were offered in respect to raising 5,000 paratroops. One can see how wrongly based these resistances were when we read the Air Staff paper [intelligence report] in the light of what is happening in Crete, and may soon be happening in Cyprus and Syria. . . . Our gliders have been produced on the smallest possible scale, and so we have practically now neither the parachutists nor the gliders, except these 500. . . . A whole year has been lost, and I now invite the Chiefs of Staff to make proposals for trying, so far as is possible, to repair the misfortune.³⁴⁸

Once the battle concluded, the British military attaché in Cairo immediately set about producing an in depth and highly detailed account from interviews with participants and commanders of General Freyburg's force, as well as RAF and Royal Navy personnel.³⁴⁹

The American military attaché in Cairo obtained the resulting document and forwarded it to the War Department General Staff in Washington, DC. The War Department reproduced the report and tailored its findings to fit American aims, including

³⁴⁷Tugwell, 123.

³⁴⁸Ibid., 122.

³⁴⁹U. S. War Department, Military Intelligence Division Report 370.03 *The Airborne Invasion of Crete*, 1. The military attaché report is a superbly detailed primary source for the initial reactions and analysis of the Battle of Crete. Published just over 100 days from the conclusion of the battle, it includes sketches, charts, facts, figures and interviews, as well as a detailed description of German operations, tactics, techniques, lessons learned and recommendations.

recommendations specifically related to the formation and expansion of the American airborne forces.³⁵⁰

Observant of the perceived German success, the War Department forwarded the report to the Commander of the U.S. Army Parachute Group, Lieutenant Colonel Bill Lee.³⁵¹ The report jumpstarted American parachute infantry development and recruitment:

Probably the greatest single impetus to the [United States] airborne development and expansion was provided by the German invasion of Crete in May 1941. Here, for the first time in history, airborne forces were employed *en masse* in a combined effort of major proportions. . . . Prior to this operation little consideration had been given to the use of gliders or powered aircraft for the landing of ground troops, emphasis having been placed entirely on the development of parachute forces. Here was a conclusive demonstration of the ability of glider-borne troops to affect tactical landings, bringing with them heavy weapons and transportation essential to the success of sustained ground action in overcoming organized resistance.³⁵²

Under Lee's watchful eye the U.S. Army quickly trained and fielded the largest airborne-capable military force in history. In this role for two months before the Battle of Crete, Lee coordinated with the Chief of Infantry and the Chief of the Army Air Forces to develop the airborne infantry as a new weapon of war.³⁵³ With breakneck pace, he quickly expanded the outfit as they learned from their German predecessors in order to

³⁵⁰Ibid., 21.

³⁵¹Tugwell, 134. Lee was promoted to Colonel in March, 1942, when the Parachute Group was re-designated the Airborne Command. He eventually retired in 1944 as a Major General. Lee is widely considered the "Father of the American Airborne", and akin to German General Kurt Student.

³⁵²Tugwell, 122.

³⁵³Gavin, viii-ix.

build an American airborne unit from scratch.³⁵⁴ Learning from the German invasions of the Low Countries and Crete, Lee assembled the American airborne forces around paratrooper and glider-based assault units in two divisions by August of 1942, before giving up command of his creation due to poor health.³⁵⁵

Several of Lee's contemporaries authored the first written acknowledgement of this new form of warfare just prior to the establishment of the American Airborne Command. The first appearance of U.S. Army written doctrine pertaining to the employment of parachute or glider-based airborne infantry forces occurred in the 1941 version of Field Manual 100-5, *Operations*. Only one chapter dealt with the airborne infantry, and it mostly outlined the "how, when and why" behind their operations, along with several of the basic tenants of this form of employment.³⁵⁶ Based on analysis of German operations during the first two years of the war and the growing nature of the American parachute divisions, doctrine expanded in Field Manual 31-30: *Tactics and Techniques of Air-borne Troops* the following year.

This analysis, authored by eventual commander of the U.S. Army's 82d Airborne division, Lieutenant General James Gavin, detailed requirements and lessons for airborne operations which originated from the German attack on Crete, and the documentation forwarded by Allied military attachés. Among these, the requirement for air superiority, rapid concentrations against an inferior enemy force (mass), quick relief (resupply and

³⁵⁴Clancy, 56.

³⁵⁵Tugwell, 135. The first two division were assembled by late 1942, the 82d "All-American" and the 101st "Screaming Eagles."

³⁵⁶U. S. War Department, Field Manual (FM) 100-5, *Operations* (Washington, DC: Government Printing Office, 1941), 241-247.

follow on forces), close air support, accurate intelligence (enemy strength, disposition, photographs, terrain, obstacle, and weather analysis) and communications all topped the list as the most critical.³⁵⁷ Gavin's work recommended copying the German model for close air support integration, as well as several techniques for defending against airborne infantry attacks. He used British observations from Crete to expand on the requirement for immediate counter-attack against parachute forces in order to disrupt or destroy them at their most vulnerable, as well as the necessity of digging entrenchments to defend against glider assault, and the idea of obstructing airfields to make them well defended or unusable. Gavin further recommended night execution for airborne operations in order to reduce the effectiveness of enemy anti-aircraft artillery.³⁵⁸ These recommendations subsequently shaped American parachute assault operations for the rest of the war, a fact not all that surprising considering Gavin's roles in writing American doctrine and shaping the American airborne force.

In his personal writings, Gavin further emphasized speed, limited objectives, initiative, and improvisation as the tenants of airborne operations; he practically copied the British military attaché's recommendations verbatim.³⁵⁹ Gavin's personal research continued, eventually including tabulated data on required duration for aircraft to pass over the drop zone (based on the size of the forces dropped and type of aircraft), as well

³⁵⁷U. S. War Department, Field Manual (FM) 31-30, *Tactics and Techniques of Air-borne Troops* (Washington, DC: Government Printing Office, 1942), 2-10.

³⁵⁸U. S. War Department, Military Intelligence Division Report 370.0, *The Air-borne Invasion of Crete*, 20-21.

³⁵⁹*Ibid.*, 21.

as speculation on the future employment of airborne forces.³⁶⁰ As if to solidify these tenants of airborne operations born of Operation Merkur and copied by the Americans, General Student echoed similar recommendations in multiple postwar interviews.³⁶¹

Much like their predecessors in the German *Fliegerkorps*, the Americans learned from the failures of their first assaults. From suffering anti-aircraft fire casualties enroute to the drop zone during Operation Husky in Sicily, to scattering nearly three full divisions across Normandy in a series of mis-drops during Operation Overlord, the American airborne infantry suffered dismal losses in their initial employments.³⁶² Operating much as the Germans originally tasked their *Fallschirmjäger* in many initial efforts, the American airborne forces often secured bridges, flanks, crossroads and causeways; they enabled the inland advance of invasion forces from the Normandy beachhead in June 1944.³⁶³ Three months later an Allied airborne army of three divisions (American 82d and 101st, together with the British 1st) numbering more than 35,000 paratroopers, transported by some 7,500 airlift sorties, dropped into Holland in an attempt to secure a bridge across the Rhine River and await the advance of the supporting British Army XXX Corps armor.³⁶⁴ Ironically, like the German assault on Crete, the massed airdrop in

³⁶⁰Gavin, 157.

³⁶¹Pissin, 226-227.

³⁶²Clancy, 202.

³⁶³Ibid., 198-200.

³⁶⁴Charles Miller, *Airlift Doctrine* (Maxwell AFB, AL: Air University Press, 1988), 114.

Operation Market-Garden suffered from rushed planning, inadequate airlift support, and multiple single points of failure.³⁶⁵

Though Americans like to think their wartime ingenuity and technological prowess is both original and war-winning, an analysis of the outcomes and observations of Operation Merkur shows that a great deal of the American concept of airborne assault originated in the German assault on Crete. Decades of technological development since the battle made inserting parachute troops into combat more efficient, rapid and lethal. Large jet transport aircraft like the C-17 are eight times more capable than their World War II predecessors in hauling airborne infantry. Their wide-body, tail-loading design allows for the airdrop of outsized cargo like wheeled vehicles and 105-mm howitzers, giving the modern paratrooper more mobility and lethality.³⁶⁶ With the ability to air-refuel from tanker aircraft, these forces can now reach any point on the globe in a matter of hours, giving them an operational reach unmatched in history.³⁶⁷ For modern airlift and airborne forces, there truly are “no more islands.”

³⁶⁵Clancy, 200-202. The plan for Operation Market-Garden was conceived by British Field Marshal B.L. Montgomery as an attempt to end the war by Christmas, 1944. It called for the three Allied airborne divisions to drop across a sixty-mile front into three separate drop zones, secure five bridges and await the arrival of the British XXX Corps armor. The XXX Corps advance from division area to division area on a single road was planned to last between 48-96 hours. Moreover, from briefing to execution, the paratroopers and armored forces had but 7 days to study, learn and modify the plan. Intelligence preparation failed to reveal that German armored and mechanized divisions recently occupied the objectives of several Allied airborne units. Due to lack of airlift, paratrooper drops took place over the course of several days instead of a single coup de main attack.

³⁶⁶Ibid., 10-13.

³⁶⁷Ibid., 14-15.

CHAPTER 7

CRETE AS AN EXAMPLE

How does a battle fought over seventy years ago continue influencing doctrine, training and operations so long after its conclusion? Research into the history and genesis of airborne operations since the Battle of Crete shows definitive proof that the principles of employment and modern execution of American airborne operations took root in the U.S. Army in the years following the conclusion of Operation Merkur, and continue to this day. This is not to imply that the American employment of airborne forces is little more than a carbon copy of the German model. Rather, the modern doctrine is shaped by the outcomes and observations of the German experience on Crete simply because it was the first of its kind in the history of warfare, and arguably, a success. The lessons of Crete continue to affect modern forced entry operations even to this day.

The modern American embodiment of the concept first attempted by the Russians at Kiev in the 1930s, shaped by the Germans during the early 1940s, and expanded by the Americans late in World War II, is contained in the U.S. Department of Defense *Joint Operational Access Concept (JOAC)*. The *JOAC* provides a blueprint for how American forces will gain access to an adversary's territory through the use of military force. Due to increasing globalization, interconnected economic and communications networks, the proliferation of anti-access weapons (such as surface to air missile systems), and a decrease in foreign basing, the American military requires the ability to rapidly project power anywhere in the world. Its desired goals include maintaining the security of the global commons and American interests abroad, ensuring freedom of commercial movement, and the deterrence of adversaries who seek to restrict these freedoms. This

requirement includes maintaining the ability to enter the sovereign territory of other nations if required, a capability now known as operational access.³⁶⁸ In light of the changing nature of the American overseas defense posture, development of the operational access capability of the military instrument of national power remains critical.³⁶⁹ The *JOAC* introduces a conceptual view of the modern American military's ability to project military power in the future.³⁷⁰ Among the tasks detailed in the *JOAC* is the requirement to execute Joint Forced Entry (JFE) operations.

Despite globalization, and the advancement in anti-access technology over the last 70 years, little changed in the doctrinal concept of forced entry operations since the Battle of Crete. As is evident in the Joint Publication 3-18, *Forced Entry Operations* (November 2012), adversary nations maintain robust strategic defenses and technology has greatly increased lethality, further reinforcing the requirement for forced entry capabilities. The JP 3-18 defines a Forced Entry Operation as a “joint military operation conducted against armed opposition to gain entry into the territory of an adversary,” typically to seize a lodgment and enable follow on operations.³⁷¹ As such, the DoD conducts modern forced entry operations in several manners including amphibious, airborne, or rotary wing (air

³⁶⁸Department of Defense, *Joint Operational Access Concept* (Washington, DC: Government Printing Office, 2012), 2.

³⁶⁹Namely, the decreased support abroad for an extensive network of U.S. military bases around the globe. Department of Defense, *Joint Operational Access Concept*, 11.

³⁷⁰Department of Defense, *Joint Operational Access Concept*, 11.

³⁷¹Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations* (Washington, DC: Government Printing Office, 2012), I-1.

assault) assaults, usually in a multi-phased operation.³⁷² With the exception of Kosovo, every major American combat operation since 1941 included some form of forced entry operation, whether airborne or seaborne.³⁷³ The JP 3-18 additionally lists the requirements for both airborne and seaborne forced entry operations; much like those lessons gleaned from the execution of Operation Merkur, the publication initially lists control of the air, surprise and synergy as essential preconditions. Without these, the probability of establishing and maintaining a lodgment decreases. Additionally, it imparts that the arrival of follow on forces is predicated on security, neutralization of the enemy, and expansion of the lodgment.³⁷⁴

To capitalize on training opportunities for the forced entry mission set, and increase the experience level of the aircrew force, the U.S. Air Force Weapons School teaches several courses on the concept of Joint Forced Entry throughout the six month duration of the school. Courseware expands on forced entry doctrinal concepts, and incorporates many lessons learned from past operations. The Weapons School works in conjunction with other USAF tactics professionals in nearly every Major Command

³⁷²Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, I-7. With forty-three landlocked nations worldwide, clearly amphibious assault is not always an option; air forces must train to execute forced entry as well. Joint Publication 3-18 lists the phases of modern forced entry operations which are remarkably unchanged since the development of the concept for Operation Merkur. They are: Preparation and Deployment, Assault, Stabilization of the Lodgment, Introduction of Follow-On Forces, and Termination/Transition Operations. Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, IV-2.

³⁷³U. S. Air Force Weapons School, *EMP396A: GRF Concepts* (Nellis Air Force Base, NV: USAF Weapons School, 2013), slide 21.

³⁷⁴Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, I-2 and Appendix B.

(MAJCOM) and the US Army to codify and test new techniques and procedures during the two classes taught annually. Weapons School instruction combines Army and Air Force capabilities, concepts, and methods of employment, while identifying the shortfalls of the JFE concept which planners must carefully consider in future operations.³⁷⁵ Students train for six months throughout the course, building up to a final Joint Forced Entry exercise in a simulated contested environment on the Nellis Range north of Las Vegas, Nevada. This JFE exercise often includes hundreds of USAF aircraft and thousands of U.S. Army paratroopers seizing a desert airfield before air-landing infantry reinforcement arrives to reinforce the lodgment. Throughout this assault, adversary forces in the air and on the ground attempt to destroy the lodgment and aircraft supporting the attack. Both the U.S. Army and USAF consider the training extremely valuable, especially in light of proposed drawdowns, force reductions, and the continuing requirement to provide American political leadership with mission-ready military options in response to crisis.³⁷⁶ Furthermore, this exercise is the only venue the U.S. Army and USAF currently use to jointly test and train for the integrated execution of Forced Entry Operations in a contested environment.³⁷⁷

³⁷⁵U. S. Air Force Weapons School, *EMP396A: GRF Concepts*, slide 67-72. These include the integration of air refueling planning, limitations of airlift aircraft as well as ground force support and communications requirements.

³⁷⁶Kyle Lear, “Airborne Joint Forcible Entry: Ensuring Options for U.S. Global Response” (Strategy Research Project, U.S. Army War College, 2012), 1-2.

³⁷⁷U. S. Air Force Weapons School, 57th Weapons Squadron (C-17). “US Air Force Weapons School JFE 13A Brief to 18th Air Force Commander” (Briefing, Nellis Air Force Base, NV, 23 May 2013), Slide 20.

Maintaining forced entry training and doctrine provides planners and politicians with a trained response force, and additionally creates the opportunity to learn from past experiences. Research into the German assault on Crete and the subsequent American buildup and execution of airborne assaults later in World War II, proves modern forced entry doctrine and training conducted by the USAF and U.S. Army shows a remarkable similarity to that executed more than seventy years ago. Recent American forced entry operations such as Operation Urgent Fury in Grenada, and Operation Just Cause in Panama, reveal commonalities with the German experience in Crete. Once again, air superiority enabled close air support and ground maneuver.³⁷⁸ These operations further highlighted that successful forced entry airlift operations require first pass drop success and mass (of force) on the drop zone in order to maximize the surprise of the airborne assault.³⁷⁹

³⁷⁸Sam McGowan, *Anything, Anywhere, Anytime* (Bloomington, IN: Authorhouse, 2011), 467-75. Despite total air superiority and close air support on station, during the October 1983 airdrop into Grenada, U.S. Air Force airlift crews failed to drop their paratroopers on the first pass, reportedly due to anti-aircraft fire on the drop zone at Point Salinas airfield. Turning away from enemy fire, the C-130 transports reformed their formations and tried a second and a third time to drop, only to again receive fire. Instead of a quick assault to establish and secure a lodgment, the US Army Rangers landed spread out over the span of an hour as the airlift aircraft executed pass after pass in an attempt to drop their human cargo. On the ground, the lightly armed and outnumbered parachute infantrymen fought for their lives. The vast majority of forces ended up landing at the eventually secured airfield versus dropping into combat conditions. Much the same occurred once again in the 1989 invasion of Panama, where un-located anti-aircraft artillery fire struck several C-130s and C-141s and caused numerous mis-drops and multiple passes by the airlift crews.

³⁷⁹U. S. Air Force Weapons School, *EMP396A: GRF Concepts*, slide 8. American requirements for airborne forced entry operations subsequently included first-pass drop success. Though expected, this “first pass” requirement was not codified until much later. Furthermore, in 1999 the Director of Operations for the American XVIII Airborne Corps at Fort Bragg added: “Historical studies and recent combat experiences have shown thirty minutes to be the minimum amount of time an enemy would need to adequately respond

Air superiority and first-pass drop success do not guarantee the success of a Joint Forced Entry operation. As previously noted, contested environments often create conditions unsuitable for vulnerable airlift aircraft due to their lack of survivability in combat conditions.³⁸⁰ As the Germans learned on Crete, anti-aircraft artillery can severely damage or destroy airlift aircraft as they have limited self-defense capability. In modern operations this requirement is even more imperative with the proliferation of more lethal radar-based surface-to-air missiles and shoulder-fired heat-seeking missiles. Even in remote areas of operations, sterilizing the target area of these threats may prove impossible. An airlift strike package executing a forced entry thus requires fighter escort, close air support, and electronic warfare aircraft to ensure survivability enroute to the target.³⁸¹ Much like the German experience planning operations on Crete, the size and scope of a forced entry operation rapidly increases due to the requirements for air superiority and close air support for the vulnerable airlift aircraft and their paratrooper cargo.

In order to find, fix, track, target, engage, and assess (F2T2EA) adversary threats, forced entry operations rely heavily on timely and accurate intelligence collection.³⁸² Much like Student's assessment of Allied forces on Crete, inaccurate intelligence

following an airborne assault," making the first pass success requirement all the more important for paratroopers and airlift forces alike.

³⁸⁰Miller, 427.

³⁸¹U. S. Air Force Weapons School, 57th Weapons Squadron (C-17). "US Air Force Weapons School JFE 13A Brief to 18th Air Force Commander," Slides 13, 17.

³⁸²Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, IV-15.

endangers operational success. In addition to tracking radar threats and enemy forces, intelligence and reconnaissance must assist in the identification of landing and drop zones, rally points, obstacles and defenses.³⁸³ Though satellite technology, imagery, mission planning software, and the internet make collection easier than it was in 1941, accurate intelligence remains a vitally important requirement for a successful assault.

The massive undertaking of launching a forced entry operation raises several issues, in addition to the requirements enabling its success (air superiority, close air support, accurate intelligence); much like the Germans discovered during Operation Merkur, airborne invasions carry a significant logistical tail. Given the capabilities of global communications and social media networks, achieving surprise is difficult after an entire fleet of large four-engined aircraft launches from Fort Bragg. The Germans dealt with far less sophisticated forms of media, espionage, security, and deception operations in Greece, yet the Allies maintained a clear picture of their operations almost from the start.³⁸⁴ Surprise for large airlift operations remains nearly as impossible today as in 1941, and requires a significant military deception and information operations effort to ensure success.³⁸⁵

Planners must further address the feasibility of executing a forced entry operation, moving thousands of paratroopers and their supporting equipment across the globe. A

³⁸³Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, III-3. These factors are part of the Mission Analysis aspect of JFE planning.

³⁸⁴Kiriakopoulos, 34-43. Though the Allies remained abreast of *Luftwaffe* planning via their Enigma intercepts, they also maintained a complex and redundant network of spies and informants in Athens.

³⁸⁵Joint Chiefs of Staff, Joint Publication (JP) 3-18, *Forced Entry Operations*, IV-16 to IV-18.

credible Global Response Force (GRF), headquartered at Fort Bragg, North Carolina as part of the XVIII Airborne Corps and made up of elements of the 82d Airborne division maintains a rotating alert force, ready to jump into the world's next crisis. The GRF is a tailorable force, able to deploy elements as small as a company to as large as a brigade; to do so it relies on the airlift aircraft of the USAF.³⁸⁶ The strategic lift fleet includes some 223 C-17 Globemaster III's, each capable of carrying 102 paratroopers or up to 170,900 lbs of cargo across strategic distances; with air refueling, its range is extended to the maximum endurance of the aircrews. For worldwide forced entry operational planning, the USAF relies entirely on the C-17 fleet, though C-130s could execute this type of operation against targets within their operational range.³⁸⁷

The airlift demands of the modern JFE concept stress the capabilities of the current USAF C-17 fleet. Assuming the GRF's target is an airfield, or that the paratroopers will assault and seize an airfield once they land, airlift operations to move an entire Airborne Brigade Combat Team (BCT) execute in three phases. First, up to twenty-seven C-17s carry the assault force to the combat zone to seize a lodgment. This 'Alpha Echelon' contains the parachute infantry units, their supporting artillery, vehicles, ammunition and supplies. Following these assault units, 'Bravo Echelon', an additional sixty-five aircraft, arrives to offload their cargo on the secure airfield no later than four hours after the initial assault; these arrivals continue over a twenty hour period until the majority combat arms members of the BCT arrive. Finally, 'Charlie Echelon', another 100 C-17 sorties, delivers the support equipment for follow on operations. USAF

³⁸⁶U. S. Air Force Weapons School, *EMP396A: GRF Concepts*, slides 27-30.

³⁸⁷*Ibid.*, slides 32-34.

Weapons School planning sources estimate that operations of this scale can require as few as 40 (aircraft from a single wing) or as many as 200 C-17s (nearly the entire fleet) depending on the distance from takeoff bases to target areas, and throughput capability for aircraft at the seized airfield. Aerial refueling aircraft requirements to support airlift operations of this magnitude (not to mention the fighter, bomber, surveillance and close air support aircraft) constitute the bulk of the USAF tanker fleet as well.³⁸⁸

Perhaps more importantly, based on the lessons of Crete, insufficient airlift support to an operation of the size and scope of a modern JFE could easily create a repeat of the same disaster facing General Student on the afternoon of 20 May. Student's original plan of attack relied on the element of surprise to catch the Allies off guard and paralyze their formations in place, thus allowing his *Fallschirmjäger* to seize the airfields and the XI *Fliegerkorps*' Ju-52s to reinforce via airlift at the most advantageous point.³⁸⁹ Student planned for simultaneous assaults at three airfields and the capital city of Chania with four regiments of approximately 11,000 men total. But the plan as envisioned proved impossible due to lack of sufficient airlift; the 502 Ju-52s provided insufficient troop-carrying capacity, able to haul just over 6,000 paratroopers in a single assault wave. In fact, dropping the entire 7th *Flieger* division in a single pass over all desired targets required at least 917 Ju-52s, more than the German *Luftwaffe* had available in May 1941. Student therefore settled for a plan which kept the same previously successful tactics, but changed targeting priorities to allow for two waves of aircraft to carry his division to

³⁸⁸Ibid., slides 33-34.

³⁸⁹Pissin, 226-227.

Crete. This decision yielded strategic surprise.³⁹⁰ The two-wave plan resulted in the near destruction of his force, and provided further credence to the first-pass drop success requirement still of primacy in airborne operational doctrine to this day.

As important as the lesson provided by the German two-wave assault plan is the fact that the forces of the XI *Fliegerkorps* assaulted into a contested environment. At every drop zone on Crete the Allied forces vigorously defended against the German assault, only failing to contain them at Maleme, where the eventual reinforcement and breakout occurred. General Student acknowledged in his postwar writings that anti-aircraft artillery fire and determined resistance severely handicapped his attack.³⁹¹ He further went so far as to suggest that division-sized parachute assault operations should operate more as General Löhner originally proposed, by assaulting *en masse* into an uncontested location, consolidating, and then breaking out from the secure lodgment.³⁹² Unless targeted on an airfield, this suggested course of action is difficult to imagine in modern practice, as it makes immediate reinforcement dependent on aerial resupply, the capture of an airfield, or rapid relief by ground forces (not to mention finding a convenient, uncontested drop zone to seize). On Crete, Student knew relief would only arrive via airlift reinforcement, making the targeting of airfields an obvious choice for the Germans.³⁹³

³⁹⁰Ibid., 227.

³⁹¹Ibid., 225.

³⁹²Ibid., 226.

³⁹³Tugwell, 116-117.

Forced entry operations require eliminating adversary air, anti-aircraft, and ground defenses near the target drop zones, thus creating a sterile corridor to allow for the procession of unarmed airlift aircraft to drop their cargos. Consequently, the most economic use of these forces is in the seizure of a single target, preferably an airfield to provide for operational reinforcement. Referencing the history of battalion-size parachute infantry drops since the close of World War II highlights this revelation even further. More than half of these operations targeted airfields. Since forced entry operations are used as a means to seize a decisive point (such as an airfield) in order to affect the outcome of a larger operation operational planners must expect adversaries will come to similar conclusions and defend these targets accordingly.³⁹⁴

The revelation that Crete and the subsequent German-influenced American operations focus on airfield seizure brings into question the continued viability of these forced entry operations in the modern anti-access international security environment. The reality and obviousness of this information leads to disturbing questions which require further research. First, if airfields are the most economic and likely target for forced entry operations, is this not also understood by adversary forces, which will then plan to interdict the effort? In fact, the British Military Attaché's Report on Crete suggested just such defensive actions back in 1941. Second, operations in Holland, on Crete, and during the period following World War II show that airfield seizure requires at least a light brigade or reinforced battalion to succeed. Thus, if a nation only maintains an alert light brigade-sized force (such as the American GRF), with airlift adequate to insert and

³⁹⁴Tugwell, 104. Miller subsequently states states that forced entry operations, such as airfield seizure, are not an ends for any operation, but instead are a means by which to affect the outcomes of overall operations or campaigns. Miller, 427.

resupply the force, do adversaries fear the prospect of rapidly deployed forced entry operations on multiple drop zones, as occurred on Crete? Is the US Army Airborne alert force right-sized, or too small to act as a realistic deterrent to any nation with modern anti-aircraft and airbase defensive capabilities?³⁹⁵ Finally, is a single airborne division's alert force (the GRF) too predictable in the scope of its operational reach to shape the modern battlefield?³⁹⁶

Crete serves as the first example of the combined capabilities of division-sized airborne parachute infantry formations, airpower in the form of air superiority, close air support, and airlift aircrews executing a combined arms forced entry operation. It likewise serves as a warning to the pitfalls and sidetracks forced entry operations may encounter. History and operational experience show the requirements of executing a forced entry operation include air superiority, close air support, accurate intelligence, airlift resources, airfields, reinforcement and resupply, global operational reach, and elimination of enemy defenses (to name but a few). Airlift and airborne planners continue to struggle with these issues, and will do so until forced entry operations are no longer necessary, or American foreign policy and military strategy change. As it appears that anti-access operations top the list of desires for America's most deadly adversaries, it behooves planners and tacticians alike to research, study, and understand the history

³⁹⁵Clancy, 29-30. This is not meant to imply that the GRF is somehow outdated or insufficient as a deterrent, but instead meant to spur the examination of future operations in non-permissive environments. Multiple operations can be cited showing the effectiveness of the 82d in the deterrent role, to include the planned invasion of Haiti in 1994 (Operation Uphold Democracy). During this operation, the 82d Airborne launched but was recalled when the military rebellion against the elected leaders of the Haitian government stepped down. Clancy, 30

³⁹⁶Miller, 428.

behind the tactics they plan and execute. As research shows that the Battle of Crete marked the genesis of American forced entry doctrine, Operation Merkur certainly warrants further examination.

CHAPTER 8

CONCLUSION: CRETE MATTERS

Well, we'll make an attempt at it. If someone starts firing we can always go away again.³⁹⁷

— General Kurt Student

The German assault on the island of Crete, Operation Merkur, marked the first and last division-sized airborne operation by the *Wehrmacht* during the Second World War. To say its attempt was daring vastly understates the planning and execution of the campaign. Though monumental, this moniker betrays the relative truth that the Germans did not execute a singular division-sized airborne assault, but instead conducted multiple brigade-sized attacks to seize a series of airfields, from which to control the Allied-held island.³⁹⁸ Though they moved two divisions to the island, some 22,000 men, the Germans were incapable of executing a division-sized airdrop of parachute infantry in a single assault. In producing this analysis, research into the Battle of Crete determined a singular reason for this shortfall: airlift. This paper thus endeavored to convey what previous studies seemingly ignored: that airlift shaped the German assault on Crete, and upon an initial failure of the attack, saved the operation from disaster.

The Battle of Crete began and ended with airlift. General Kurt Student, proud of the *Fallschirmjäger* force he built and employed successfully over the first two years of the war, eagerly constructed an original but ultimately flawed battle plan for the assault, due in part to his obsession with vertical envelopment and his disregard for the airlift that

³⁹⁷Hockley, 158.

³⁹⁸Galvin, 48.

enabled the concept's initial success.³⁹⁹ Though the German *Luftwaffe* commander possessed more than enough infantry and supporting aircraft (air superiority and close air support fighters and bombers) for the task of seizing the Allied-held island, his Achilles heel centered on the tri-motored workhorse of the German *Luftwaffe*, the Ju-52. Student commanded barely half of the required transportation aircraft needed to execute the assault as he originally envisioned.⁴⁰⁰ He determined that the shock and surprise qualities of the men and machines he trained from scratch could overcome any obstacle, even the inescapable truths of capacity and capability of his insufficient airlift force.

Though his original plan to seize Crete by force suffered from a lack of logistical appreciation, it also lacked confidence from higher headquarters. *Luftflotte IV* commander, and Student's superior officer, General Löhr, refused to adequately support the operation due to the pending attack on Russia. Though VIII *Fliegerkorps* commander General von Richthofen adequately supported Student, he did not believe in his plan. Both men believed Student was an amateur at planning, and that his parachute force was a novelty, despite its past success. Neither could change his mind about Operation Merkur.⁴⁰¹ Student thought big and planned big. In light of his early war success, the emboldened *Fallschirmjäger* general concluded his force could subdue an entire island.⁴⁰²

³⁹⁹Ibid., 47-48.

⁴⁰⁰Pissin, 227.

⁴⁰¹Hooten, 85.

⁴⁰²Tugwell, 119.

The plan to attack Crete developed as it did due to the realities of airlift force allocation. For the assault, Student gathered 502 Ju-52s to carry the men of his 7th *Flieger* division into four objective areas; the three target airfields and the island's capital. Moving his entire force in a single wave required almost twice the amount of airlift aircraft he had on hand; the shortfall required splitting of the assault into two separate waves to ensure the entire division's arrival. Though his tactics remained unchanged from the successful methods employed in Norway and Holland in 1940, the lack of airlift aircraft determined the manner of his attack on Crete.

Further competition for resources meant the German *Fallschirmjäger* commander also fought for support. Short of aviation gasoline, parachute drop containers, artillery, adequate airfields, communications and radio equipment, and even adequate airlift, Student still believed his oil spot tactics could not fail. If Norway, Denmark, and Holland proved him right in the past, how was Crete so different?

Student's initial attack met unexpected Allied resistance, though he lost few soldiers and fewer aircraft. The Allied garrison successfully defended the island on 20 May, and the Germans failed to secure any objectives at Maleme airfield, Chania, or Suda Bay. In the subsequent melee to refuel and reload, his transport fleet lost valuable hours due to poor conditions and lack of proper equipment; frantic telephone calls to delay the second attack wave went unanswered. With their surprise now spoiled and supporting fighters returning to Greece for lack of fuel, the second wave nearly met disaster. In the confused darkness of that night, after a day's hard fighting against an entire German regiment at Maleme and Hill 107, a mistaken Allied withdrawal

uncovered the commanding position at the airfield; the Germans took advantage of this development the next morning.

Before sundown the following day, the airlift reinforcement of the single German held airfield turned the tide of the Battle of Crete. Arriving through devastating Allied fire which destroyed dozens of transport aircraft, battalions offloaded at Maleme and fed straight into the lengthening German battle line, turning back Allied defenders as they advanced. All the while the screaming Stuka dive bombers and Messerschmitt fighters decimated the exposed Allied positions. Before they knew it, the Allies lost the battle for Crete. In a matter of days they evacuated the island, leaving the German *Fallschirmjäger* as masters and architects of yet another stunning victory. Or were they?

Though the Germans suffered tremendous casualties in the assault on Crete, they no less won the battle. Their fighters swept the skies of Allied resistance and enabled the bombers of the VIII *Fliegerkorps* to act as close air support for the otherwise “light” *Fallschirmjäger*. *Luftwaffe* close air support operations, while a decided failure in preparing the island for the assault, nonetheless eased the advance of German forces and acted superbly as flying artillery. The airlift force, though handicapped by insufficient numbers, managed to move two divisions to the island but suffered over fifty percent casualties.⁴⁰³ Obviously, the plan of attack had terrible faults.

The two-wave assault plan for Operation Merkur proved an unmitigated disaster, brought on by a combination of insufficient airlift and Student’s stubborn refusal to act against his own previously-proven concept of vertical envelopment. At a decided disadvantage, the second attack wave suffered from a lack of surprise enjoyed by the

⁴⁰³Pissin, 213-14.

initial assault, as well as a lack of close air support synergy due to delays in launching the transports caused by the terrible conditions of the Greek airfields. Student had no business endangering his force by insisting on methods of employment which ran contradictory to the very concept he previously pioneered, one predicated on surprise.⁴⁰⁴ His lack of airlift should have forced the decision to reinforce the original objectives, or a scratching of his original plan altogether in favor of one which enabled the buildup of German combat power; the assault, seizure, and reinforcement of a single lodgment. Oil spot tactics, seizing multiple objectives simultaneously, worked in the past when the enemy was surprised. Unable to achieve surprise, the notion of vertical envelopment should have been abandoned. A departure from previously successful tactics was obviously difficult for Student to fathom on the eve of the largest airborne operation to date.

Even when presented with the facts-that insufficient airlift existed to execute the plan to seize the island as originally intended-Student remained unconvinced that his *Fallschirmjäger* could not succeed in spite of the odds against them.⁴⁰⁵ This remained the case once Student received updated, accurate intelligence reports on the eve of the attack. Thus, no amount of accurate intelligence information, knowledge of enemy dispositions, or cold hard facts of logistical or airlift realities were going to dissuade him from executing the assault; the plan was flawed from the very beginning. Student *needed* the attack to succeed. Given total German air superiority, close air support, and limited airlift resources, his only other option was to seize and build strength at a single objective,

⁴⁰⁴Tugwell, 116.

⁴⁰⁵*Ibid.*, 119.

followed by a protracted advance across the island. Due to the pressures of parallel operations (Barbarossa) and his previous success, the *Fallschirmjäger* general had no ideal answer to the problem of Crete, so he went with what worked in the past.⁴⁰⁶

General Student no doubt suffered through the night of 20 May 1941, weighing the humiliating exfiltration or masterful reinforcement of his invasion force. That evening, his decision to attempt the reinforcement at Maleme marked the first turning point in the battle. Aided by the capture of the heights at Hill 107, the XI *Fliegerkorps* airlift force braved indirect artillery and hellacious anti-aircraft fire to execute the air-landing of the mountain infantry the following afternoon; another twenty-four hours passed before the results of this action showed a decided shift for the Germans. Student's airlift force thus determined the initial manner of the attack, and subsequently determined the outcome of the overall campaign when it successfully reinforced a single lodgment by air-landing more than a division of reinforcements. Airlift first imperiled and then saved the German operation following a change in tactics. Though it did not cause the German victory, airlift surely shaped the battle.

The German pyrrhic victory subsequently provided the lessons upon which the Allies built and expanded their airborne infantry formations in the coming years. While World War II era doctrine credits the German forced entry operation during the Battle of Crete with its genesis, the battles' mention is conspicuously absent from American doctrine in the postwar years. Nonetheless, this assault quietly continues to shape modern Joint Forced Entry doctrine, the tenants of airborne operations, and conceptual works like

⁴⁰⁶Ibid., 118-19.

the Joint Operational Access Concept. The lessons of Crete endure, informing modern airlift and airborne operational doctrine from World War II to this day.⁴⁰⁷

Crete also uncovers many questions about past employment, and the future of airborne operations. Statistical proof exists that German airlift losses during early-war operations (Norway and Holland), combined with the losses endured at Crete, and the accompanying slow rates of transport aircraft production, severely affected late-war operational airlift capability. The majority of this data is not germane to this study, but certainly warrants further investigation as to the effects of combat losses and production output, particularly during the Stalingrad airlift of 1942.

Other German airlift operations such as those to supply North Africa during 1942-1943, or the Crimea and the isolated German garrisons on the Western Front during 1944 (Brest, etc.) are also worthy of attention; particularly in light of the combat losses, fuel shortages, and available training for *Luftwaffe* pilots.⁴⁰⁸ These realities no doubt affected the German ground operations in those areas, but this study did not examine them in depth. The reduction in training for the *Luftwaffe*'s multi-engine and transportation pilots, and the effects on later-war airdrop operations (limited as they were) is certainly a topic for further research. Operation Stösser, conducted during the initial German advance into the Ardennes in December of 1944, is of particular interest regarding these reduced capabilities, and their effect on German operations within larger campaigns.⁴⁰⁹

⁴⁰⁷Ibid., 118.

⁴⁰⁸Morzik, 292-301.

⁴⁰⁹Ibid., 281-292.

Finally, an examination of the concept of employment for the German, and subsequently the American, airborne forces is warranted. Arguably, the modern employment of paratroopers is outdated in light of anti-access weapons and area-denial strategies employed by adversary nations. The essence of an airborne force is in its ability to capitalize on surprise, synergy, mass, and air superiority to gain access to territory and establish a lodgment.⁴¹⁰ But is such employment still operationally, or strategically valid? Are the methods of insertion, resupply, and reinforcement viable on today's battlefield? Is the American embodiment of the forced entry concept a realistic threat to adversary nations? Or is the entire concept of employment flawed, dating back to the German division-sized operation on Crete in 1941? These inquiries require further investigation as each was a topic of conversation and research throughout the analysis of Operation Merkur for this study.

The Germans conceived Operation Merkur in a resource-limited, time-restricted environment; though victorious, the plan as originally conceived, failed. The Germans capitalized on an opportunity and rapidly reinforced a single lodgment via airlift, abandoning previously proven concepts of employment to attempt new tactics which ultimately saved their forces from defeat. Crete showed that vulnerable parachute infantry must receive rapid reinforcement or relief if they are to survive sustained combat operations. Furthermore, the operation highlighted that airlifting parachute infantry to an objective area to seize and expand a lodgment is only one step in any forced entry

⁴¹⁰Sadler, 316.

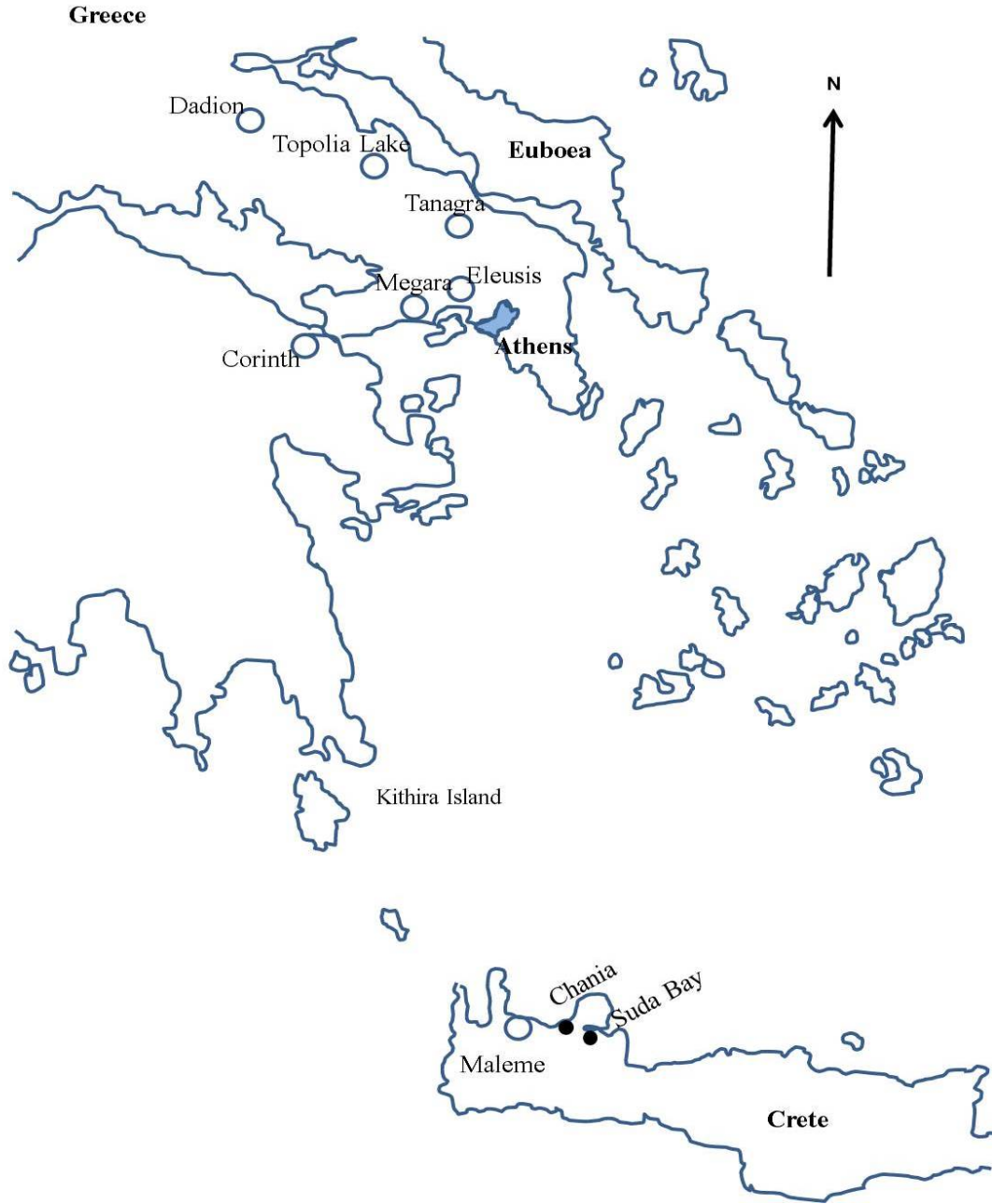
operation.⁴¹¹ Doing so in a contested or resource-limited operational environment is exponentially more difficult.

German veterans of Crete admit that the success of their airborne operations in the first two years of the war influenced their outlook on the capture of the island.⁴¹² What they accomplished there had never happened before: an entire division of parachute infantry dropped into a contested environment and ultimately defeated their Allied opponents. But *Luftwaffe* leadership also applied previously-successful tactics to the German objectives on Crete, and the result nearly destroyed the parachute troops entirely. Airlift shaped this pyrrhic Axis victory by first endangering, and then subsequently saving the German operation. Had the *Luftwaffe* employed its airlift forces at the Battle of Crete to exploit mass and synergy at a single lodgment, the resulting overwhelming force might have drastically changed the conduct of this battle, the influential outcomes of which still inform forced entry operations today.

⁴¹¹Department of the Army, DA PAM 20-232, 5.

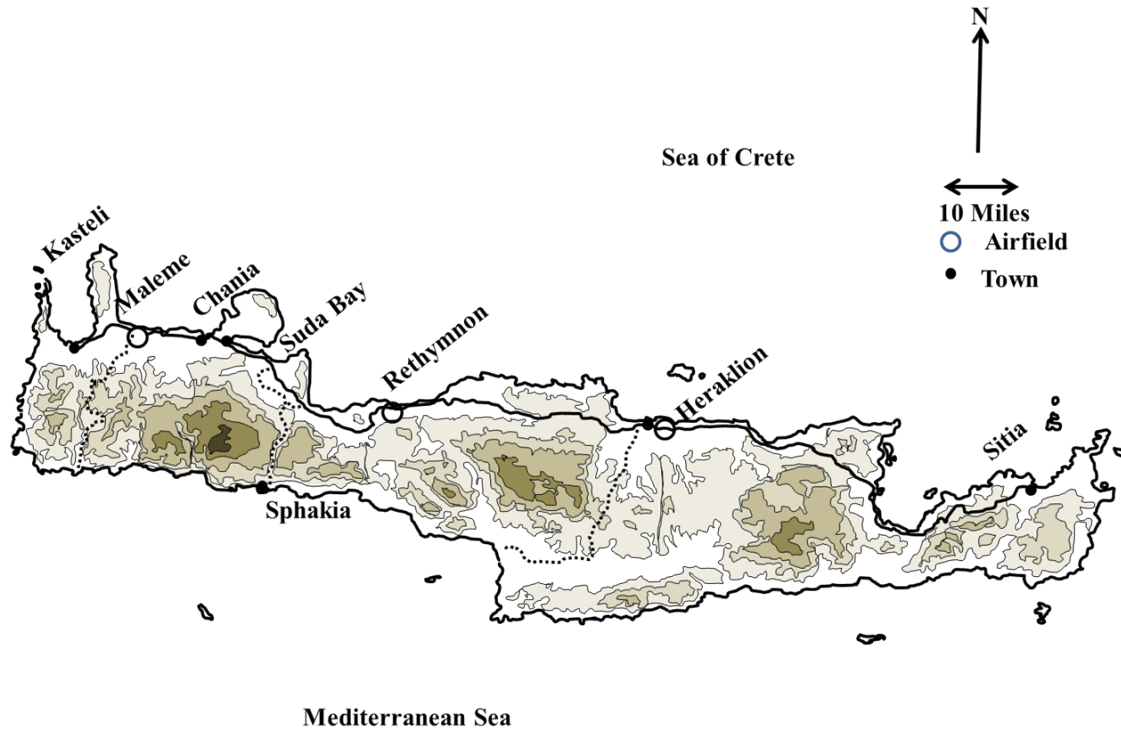
⁴¹²Galvin, 46-47.

APPENDIX A
THEATER GEOGRAPHY



Source: Map drawn by author and adapted from information in: Walter Ansel, *Hitler and the Middle Sea* (Durham, NC: Duke University Press, 1972).

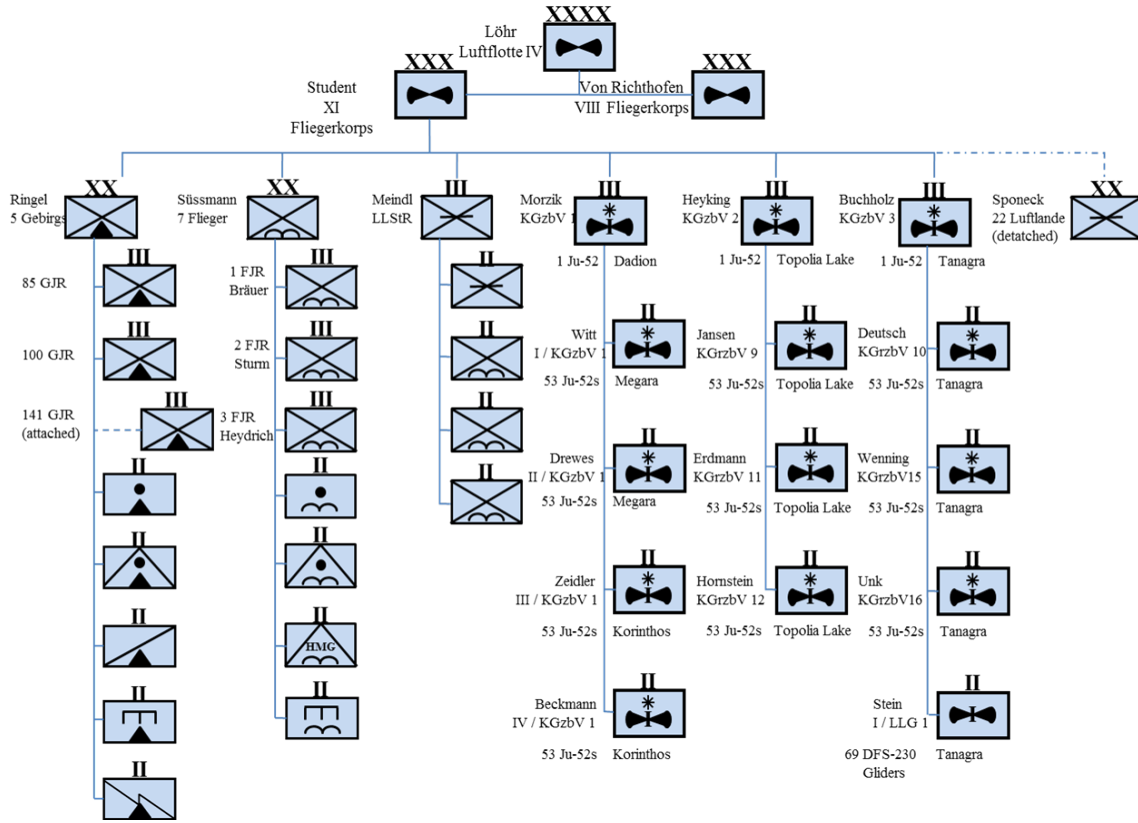
APPENDIX B
THE ISLAND OF CRETE



Source: Map created by author.

APPENDIX C

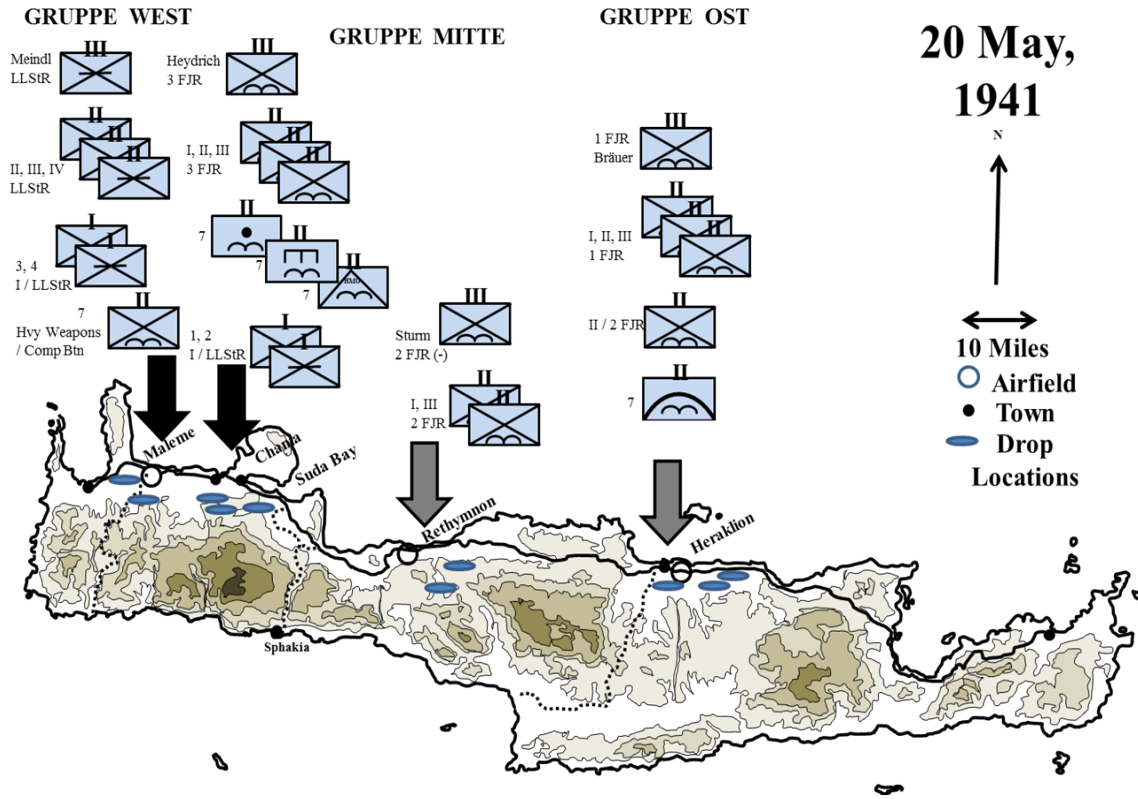
XI FLIEGERKORPS ORGANIZATION, 20 MAY 1941



Source: Organizational chart assembled by author from information in: Bruce Quarrie, *German Airborne Divisions* (Oxford: Osprey Publishing, 2004); D. W. Pissin, Numbered Air Force Study 162, "The Battle of Crete" (Maxwell AFB AL: Air Force Historical Research Agency, 1956), <http://www.afhra.af.mil/studies/numberedusafhistoricalstudies151-200.asp> (accessed 4 October 2013).

APPENDIX D

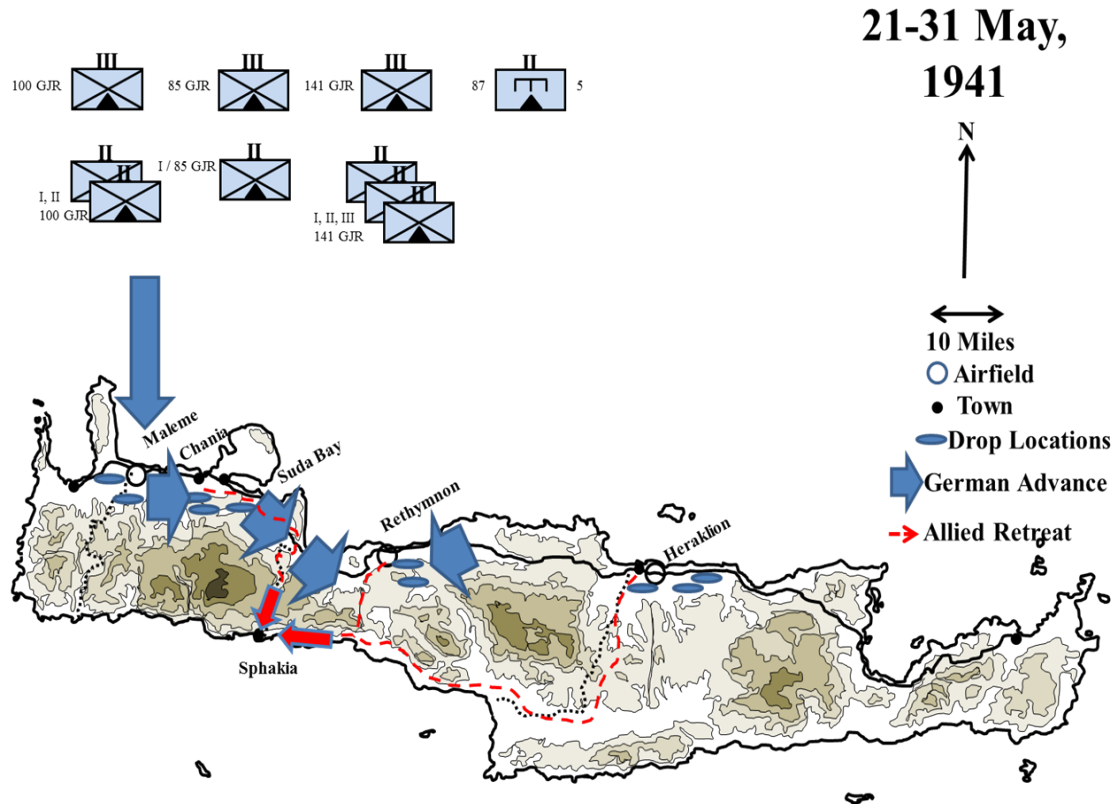
XI FLIEGERKORPS ASSAULT, 20 MAY 1941



Source: Map drawn by author and adapted from information in: Bruce Quarrie, *German Airborne Divisions* (Oxford: Osprey Publishing, 2004).

APPENDIX E

REINFORCEMENT AND THE FALL OF CRETE 21-31 MAY 1941



Source: Map drawn by author, and adapted from information contained in: Bruce Quarrie, *German Airborne Divisions* (Oxford: Osprey Publishing, 2004); Walter Ansel, *Hitler and the Middle Sea* (Durham, NC: Duke University Press, 1972).

APPENDIX F

JU-52S ENROUTE TO CRETE



Source: Harvey Black, Archive for September 2012, Fallschirmjäger, Grüne Teufel, Green Devils, Part 3, <http://harveyblackauthor.files.wordpress.com/2012/09/fallschirmjager-3-040.jpg> (accessed 1 April 2014).

APPENDIX G

JU-52 AIRDROPS OVER CRETE



Source: Asisbiz, Ju-52 Trimotor Transport Aircraft Website, <http://www.asisbiz.com/il2/Ju-52/Junkers-Ju-52/pages/Unternehmen-Merkur-Junkers-Ju-52-3mg4e-shot-down-during-the-invasion-of-Crete-1941-02.html> (accessed 1 April 2014).



Source: Harvey Black, Archive for September 2012, Fallschirmjäger, Grüne Teufel, Green Devils, Part 3, <http://harveyblackauthor.files.wordpress.com/2012/09/fallschirmjager-3-042.jpg> (accessed 1 April 2014).

APPENDIX H

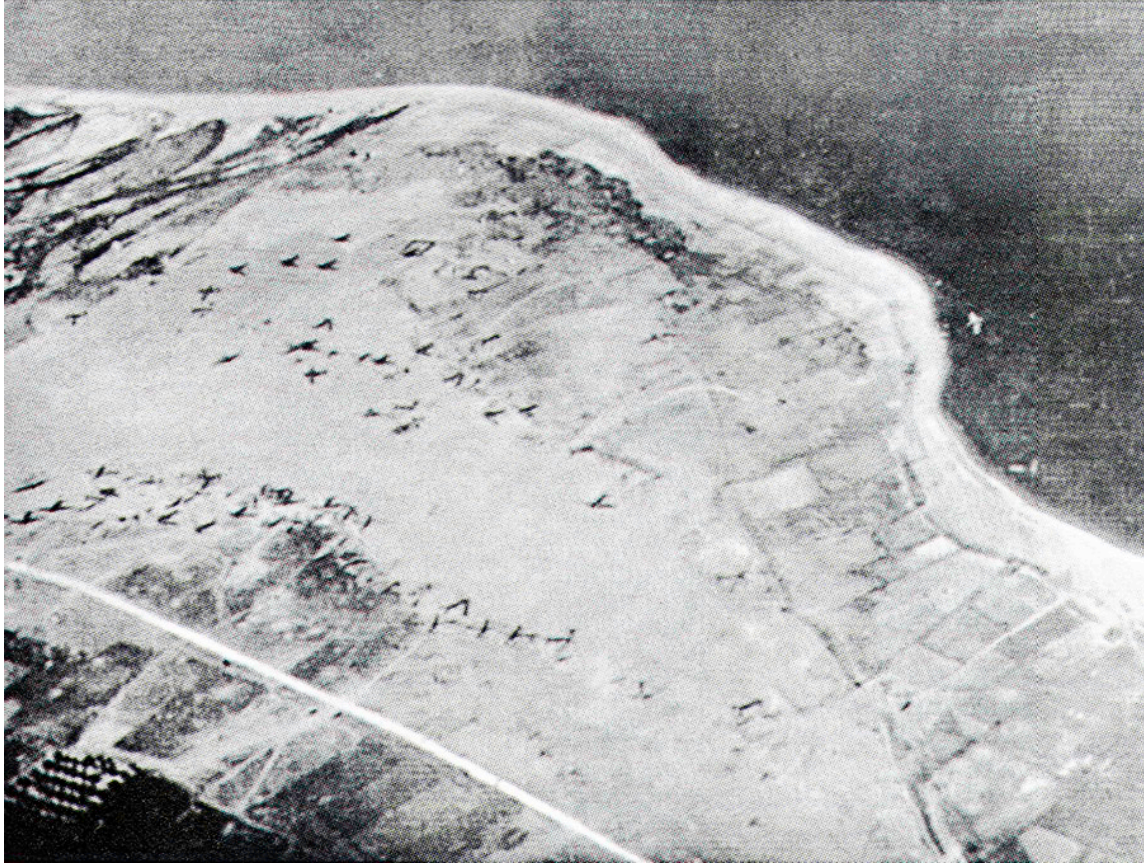
GEBIRGSJÄGER WAITING TO BOARD JU-52S TO CRETE



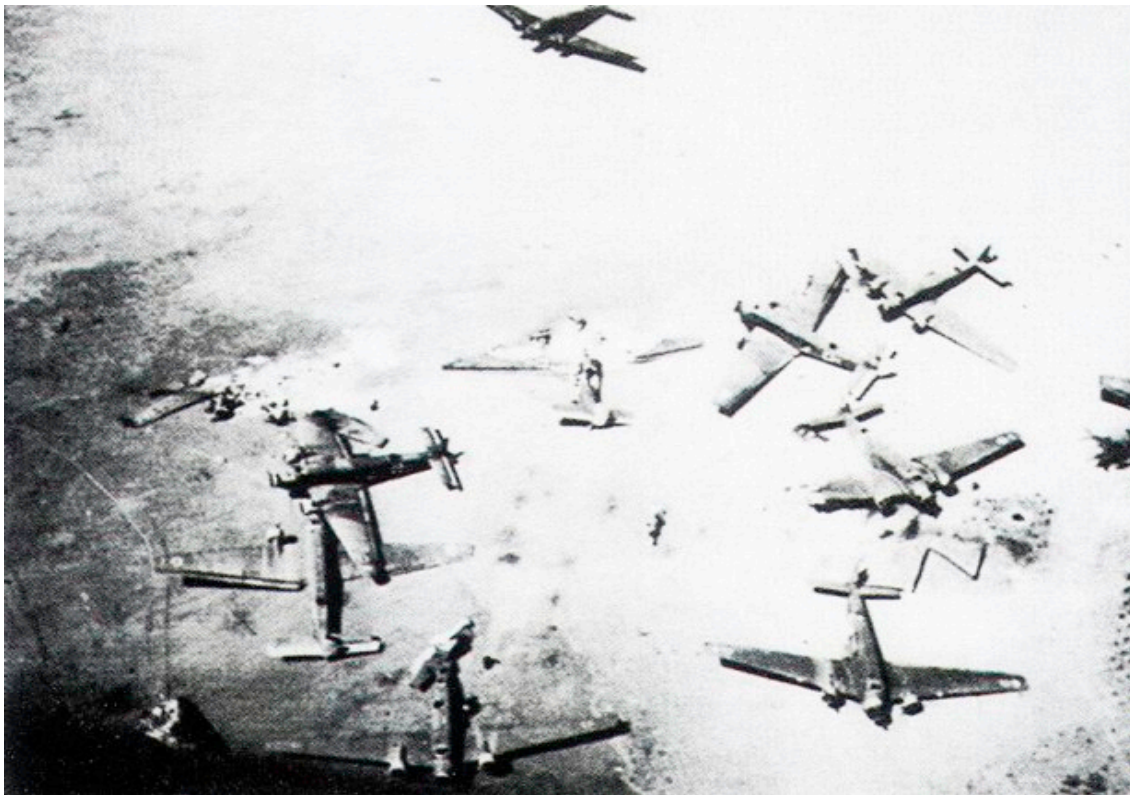
Source: Wikipedia, Gebirgsjäger vor dem Start nach Kreta, http://en.wikipedia.org/wiki/Battle_of_Crete (accessed 1 April 2014).

APPENDIX I

AIRLIFT AIRCRAFT WRECKED AT MALEME AIRFIELD



Source: Asisbiz, Ju-52 Trimotor Transport Aircraft Website, <http://www.asisbiz.com/il2/Ju-52/Junkers-Ju-52/pages/Unternehmen-Merkur-Junkers-Ju-52-3mg4e-wrecked-on-Maleme-AF-Crete-1941-01.html> (accessed 1 April 2014).



Source: Asisbiz, Ju-52 Trimotor Transport Aircraft Website, <http://www.asisbiz.com/il2/Ju-52/Junkers-Ju-52/pages/Unternehmen-Merkur-Junker-Ju-52-3mg4e-wrecked-on-Maleme-AF-Crete-1941-02.html> (accessed 1 April 2014).



Source: Asisbiz, Ju-52 Trimotor Transport Aircraft Website, <http://www.asisbiz.com/il2/Ju-52/Junkers-Ju-52/pages/Unternehmen-Merkur-Junker-Ju-52-3mg4e-wrecked-on-Maleme-AF-Crete-1941-03.html> (accessed 1 April 2014).

APPENDIX J

GENERALS STUDENT AND RINGEL CONFER ON CRETE



Source: Harvey Black, Archive for September 2012, Fallschirmjäger, Grüne Teufel [sic], Green Devils, Part 3, <http://harveyblackauthor.files.wordpress.com/2012/09/fallschirmjager-3-036.jpg> (accessed 1 April 2014).

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