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NAVAL WAR COLLEGE  
Newport, R.I.

The Battle for Crete (Operation Mercury): An Operational Analysis

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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18 May 2001

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In May 1941 the German Luftwaffe conducted the first purely airborne invasion of an island in history. Although German airborne forces would seize the island of Crete, their operational objective, the operation was accomplished at great risk of failure and at great cost in personnel and resources due to the limited application of operational art.  
Operation Mercury was an operational objective of opportunity following unexpectedly successful operations in Greece and Yugoslavia. With only three weeks to plan and prepare prior to execution, improvisation and compromise would characterize the attack. Although the operation ended in the seizure of Crete, the cost in lives and resources would prevent Hitler from ever again risking his airborne forces in a major airborne operation.  
This case study reviews the broad strategic setting surrounding the operation and provides an analysis contrasting German planning and preparation with execution. Through an examination of the operational factors of space, time, and force, an analysis of the operational functions of operational command and control, intelligence, and fires, and an examination of vertical envelopment as a form of operational maneuver, one can derive significant lessons learned applicable to today's forced entry operations.

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## **ABSTRACT**

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## Introduction

*Airborne operations, carried out for the first time during World War II, point to a new trend. An air landing behind the enemy front is, after all, nothing but an envelopment by air, an envelopment executed in the third dimension.*

*Herein lies its significance and an indication of the role it will play in future wars.*

(An appraisal written by German experts on airborne operations at the conclusion of WWII.)<sup>i</sup>

After fifty years of historical studies and critical analysis by innumerable authors and military experts, the German airborne operation to seize the island of Crete from 20 through 30 May 1941 remains a controversial and ambiguous military operation. At the conclusion of the operation German forces successfully achieved their operational objective by seizing Crete. Unfortunately, one must also consider the victory in terms of the German broad strategic plan and the expenditure in finite German resources. A German “victory” is less apparent from this perspective. Sequentially, Crete was not the next stage in a long-term Mediterranean strategy. Instead the invasion proved costly in losses of manpower and airborne capability, nearly became Hitler’s first operational defeat, and tarnished Hitler’s opinion of airborne operations.

United States Army airborne, air assault and Marine Corps operational maneuver from the sea capabilities provide distinct options to the operational commander. These options allow the operational commander to attack the enemy operational center of gravity (COG) directly or indirectly through critical vulnerabilities by enveloping his forces. Envelopment is defined as an attack “... directed against the enemy’s flanks or rear to outflank, oust, or trap enemy forces – possibly against some geographic feature.”<sup>ii</sup> In the case of those forces previously described, this flank is in the third dimension and vertical – hence the term “vertical envelopment.” This distinctive capability enables these forces to conduct forced entry operations and, specifically in the case of airborne forces, to conduct these operations over great distances. Arguably, reduced opportunities for forward basing and access will further drive our need for force projection. Army Field Manual 100-5, Operations, states that “airborne infantry units have the greatest



capability for large-scale force-projection operations.’<sup>iii</sup> Recent demonstrations of airborne capabilities and planned operations include Operation Urgent Fury in Grenada, Operation Just Cause in Panama, and the planned airborne invasion of Haiti. With the exception of Panama, these operations were comparatively unopposed – a luxury not enjoyed by German airborne forces on Crete.

The German attack on Crete, code named Operation Mercury, was the first purely airborne invasion of an island in history. Operation Mercury, although a German victory, was accomplished at great risk of failure and at greater cost due to the overall flawed application of operational art. Through a review of Operation Mercury’s strategic framework and an operational analysis contrasting German planning and preparation with execution, one can derive critical lessons learned to support future operational planning and execution by our operational leaders and staffs. Although the operation will highlight numerous lessons, those most noteworthy include the importance of synchronizing forces in time and space as well as the significance of the operational functions of command and control, intelligence, and fires. Furthermore, the operation will highlight the relationship of two Principles of War, surprise and mass, in the execution of vertical envelopment as a form of operational maneuver.

### **Strategic Framework**

It is useful to first establish the overall strategic context in which the operation takes place prior to conducting an analysis of a major operation. The British first occupied Crete in 1940 and improved the islands three airfields, Maleme, Retimo, and Heraklion, and harbor installations at Suda Bay. Crete served as a key refueling base for allied naval forces as well as the main supply base in support of operations in Greece. After the German invasion of Greece, Crete also became the assembly point for allied troops evacuated from Greece. With Crete,

allied forces were positioned as a threat against the Balkan coast and specifically the Romanian oil fields.<sup>iv</sup> These oil fields were a critical vulnerability, susceptible to allied attack and, based on Germany's lack of internal resources, essential to Germany's long-term strategic objectives.

From the German perspective, Crete was an operational objective of opportunity that followed unexpectedly successful operations in Greece and Yugoslavia.<sup>v</sup> Germany saw Crete as an ideal location from which to protect the oil fields in the Balkans while also protecting their southern flank during the attack on Russia. The airfields of Crete provided operational control of the Mediterranean while Suda Bay was an exceptional, defensible port. Additionally, Crete provided an ideal staging base for potential future offensive operations in the eastern Mediterranean (Figure 1).<sup>vi</sup>

Reichsmarshal Goering was a proponent for seizing Crete for political as well as operational reasons. Goering lacked credibility with Hitler based on the Luftwaffe's failure to achieve a victory over Britain and considered an airborne invasion of Crete as a means to reestablish the relevance of the German Air Force. This was especially significant since he knew the German Army would be at the forefront of the invasion of Russia. Crete became primarily a German operation, heavily dependent on the Luftwaffe, with the exception of a small role for Italian naval forces in support of sealift operations. Understandably, the German Army and Navy were reserved in their support of the plan.<sup>vii</sup>

At odds with a decision to assault Crete was the long-term German plan to attack Russia, code named Operation Barbarossa. Although Operation Mercury was in competition for critical resources, consideration was given to its ability to divert attention from preparations for the attack. Hitler resolved this conflict by dictating that Operation Mercury would not interfere with the assembly of forces for the attack on Russia.<sup>viii</sup> Hitler also considered a successful airborne

operation against the island of Crete as a means to elevate British concerns about a possible invasion of England.<sup>ix</sup> In the end, Hitler's final decision was based primarily on the requirement to protect the oil fields from allied bombing.<sup>x</sup>

Unfortunately, based on Hitler's commitment to the attack on Russia, the seizure of Crete provided little strategic value and demonstrated Germany's failure to link operational and strategic objectives as part of a broad strategic plan. The operation also diverted critical transport aircraft and airborne resources from Germany's future main effort. The seizure of Crete signaled the conclusion of Germany's Mediterranean campaign rather than a stepping stone to future operations.

## PLANNING AND PREPARATION

### OPERATIONAL FACTORS OF SPACE, TIME, AND FORCE

*Control of space, time, and force, and their interrelationship is the chief prerequisite for success in the planning and execution of any military action; their balancing is the core of operational warfare.<sup>xi</sup>*

The spontaneous nature of the German campaign in the Mediterranean was also reflected in the German campaign to seize Crete. Hitler provided a directive to begin planning for an operation to occupy the island of Crete on the 25<sup>th</sup> of April. Time drove the impromptu nature of the operation from its inception when considering that the

# CENTRAL AND EASTERN MEDITERRANEAN



**Figure 1**

Source: Reprinted, by permission, from Professor Milan Vego,  
Naval War College, 2001.

operation was to begin on the 20<sup>th</sup> of May.<sup>xii</sup> Planning and preparation were complicated by limited time to concentrate forces and conduct thorough preparations. The German 7<sup>th</sup> Airborne Division had to be transported, by rail and truck, from Germany to Greece to participate in the operation.<sup>xiii</sup> Additionally, at the conclusion of Operation Marita, the invasion of Greece, German forces were spread throughout the Greek countryside. Concentration of forces in time and space challenged German planning as well as preparation.

The German operational leadership also faced significant challenges in synchronizing the execution of Operation Mercury in space, time, and forces. A clear German advantage was in the training and discipline of its airborne and mountain divisions. This strength was offset by a lack of sufficient transport aircraft to support the attack – directly affecting their ability to concentrate forces in one massive airborne assault on the objective. Additionally, Germany lacked sufficient naval forces and had to depend on the Italian Navy to challenge the British naval dominance in the Mediterranean. The attack depended on the synchronization of air, land, and naval forces over 100 miles of Mediterranean Sea (Figure 1).<sup>xiv</sup> Therefore, the airborne operation was planned and executed with limited air transport and without the benefit of reliable, converging ground forces, by land or sea. Operation Mercury became the first major military operation with airborne forces operating independently.<sup>xv</sup> The inability to synchronize available forces in space and time, in the end, contributed to the near failure of the operation and excessive German losses.

The allies also faced challenges in space, time, and forces in preparation for the defense of Crete. The geography of Crete significantly limited allied attempts to prepare for an invasion. The airfields and Suda Bay were all located on the northern side of the island, closest to Greece, and farthest from supporting bases in Egypt. Sea and air lines of communication were twice the

distance of their German attacker, extending over 200 miles from Egypt. Allied shipping was extremely vulnerable to interdiction by the Luftwaffe, which limited any attempts to improve island defenses. Consequently, critical reinforcements that were needed to supplement the island defenses never arrived.

New Zealand General Bernard Freyburg also never possessed the operational air forces on Crete to support his defense and had to rely on air support from Egypt. The three airfields remained intact and therefore had to be defended, based upon an unfulfilled request for two squadrons of aircraft. Allied plans to provide air support to ground operations from Egypt failed based on the extended distances. The lack of operational air support would also hamper allied naval operations. Allied naval forces had to resupply the island defense forces and interdict the German seaborne invasion at great risk without responsive air support. Airpower was unable to react in time and space from Egypt to challenge German air superiority.

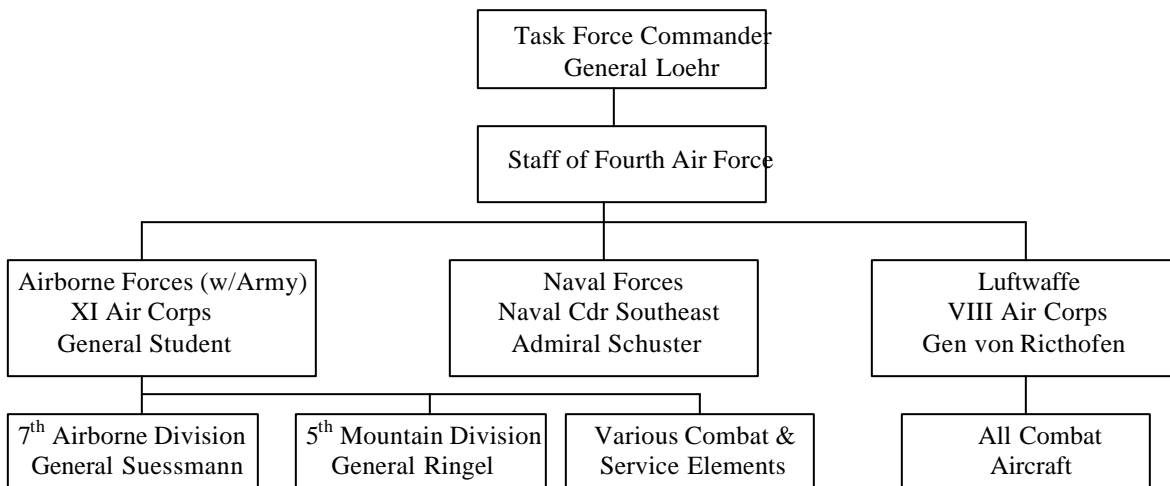
At the tactical level, Freyburg faced the formidable task of concentrating his forces in space to defeat an airborne and seaborne invasion over extended distances and without sufficient mobility. Allied strength on the island totaled 24,500 British, New Zealander, and Australian combat troops. Many of these forces had been evacuated from Greece and although they remained capable, carried the intangible adverse affect on morale from their recent German defeat. The island also provided an additional 10,000 poorly armed, but highly regarded and capable, Greek and Cretan soldiers. With 6,000 additional service troops, Freyburg had an approximate total of 41,000 troops to defend Crete, a two to one advantage for the defenders.<sup>xvi</sup> Unfortunately, the threat of attack by both airborne and seaborne forces diluted allied defensive capabilities.

## Operational Functions

### Operational Command and Control

Command and control was a German operational strength for Operation Mercury. Hitler passed command of the operation to the Luftwaffe under Reichsmarshal Goering. Goering designated General Loehr, the German Fourth Air Force Commander in the Balkans, as the overall commander. With this command structure Hitler established one of his few operational commands of the war. With the Twelfth Army and Navy Group South directed to provide support, the command structure provided unity of command and overall unity of effort for the operation.<sup>xvii</sup>

**German Command Structure for Operation Mercury<sup>xviii</sup>**



**Figure 2**

In contrast, the allies were plagued by a command structure that subordinated air and land commanders to their service component commanders in Egypt, who received their orders directly from the War Cabinet in London. General Freyburg also reported to his New Zealand government when necessary. Perhaps most disruptive was Prime Minister Churchill's habit of intervening directly to Freyburg when he felt it was necessary or beneficial.<sup>xix</sup> These arrangements disrupted allied unity of effort in the defense of Crete.

## Operational Intelligence

Operational intelligence is defined as “intelligence required for planning and conducting campaigns and major operations to accomplish strategic objectives within theaters or operational areas.”<sup>xx</sup> German operational intelligence for the attack was particularly lacking. Intelligence reports estimated that the defenders were as few as 5,000 strong – off by a factor of eight. Allied camouflage and concealment and dummy flak positions prevented accurate targeting and supported a faulty overall intelligence picture.<sup>xxi</sup> Allied forces retreating from Greece were thought to have evacuated to Egypt. Additionally, German intelligence focused on perceived allied intentions rather than enemy capabilities. Their predictive analysis was particularly flawed and indicated that any allied forces remaining on Crete would evacuate once the airborne operation was initiated. German intelligence would, in the end, wrongly establish the enemy’s size, intentions, and capabilities and significantly influence the operational concept.<sup>xxii</sup> These intelligence shortfalls contributed to the near failure of the operation while directly contributing to excessive German casualties.

In contrast, General Freyburg was to be the first operational leader to benefit from Ultra, the allied capability to decipher Germany’s cryptographic signals. Although Ultra was best suited for developing long-term, strategic intelligence, it strongly supported the defense of Crete.<sup>xxiii</sup> Ultra intercepts identified specific units, strengths, and assigned objectives for many of the German forces involved in the operation.<sup>xxiv</sup> Agents in Athens were able to confirm this information, to include a prediction that the attack would commence at any time after 17 May.<sup>xxv</sup> The operational contribution of Ultra to the allied defense of the island is best summarized by the following quote:

When the island fell, it seemed that the test had been failed by a narrow margin, but in fact it was probably only Ultra’s warning which enabled the defenders to come so near success and to inflict such heavy casualties on the German airborne troops that the



reputation for invincibility they had acquired in the Low Countries the previous year was completely shattered.<sup>xxvi</sup>

### **Operational Fires.**

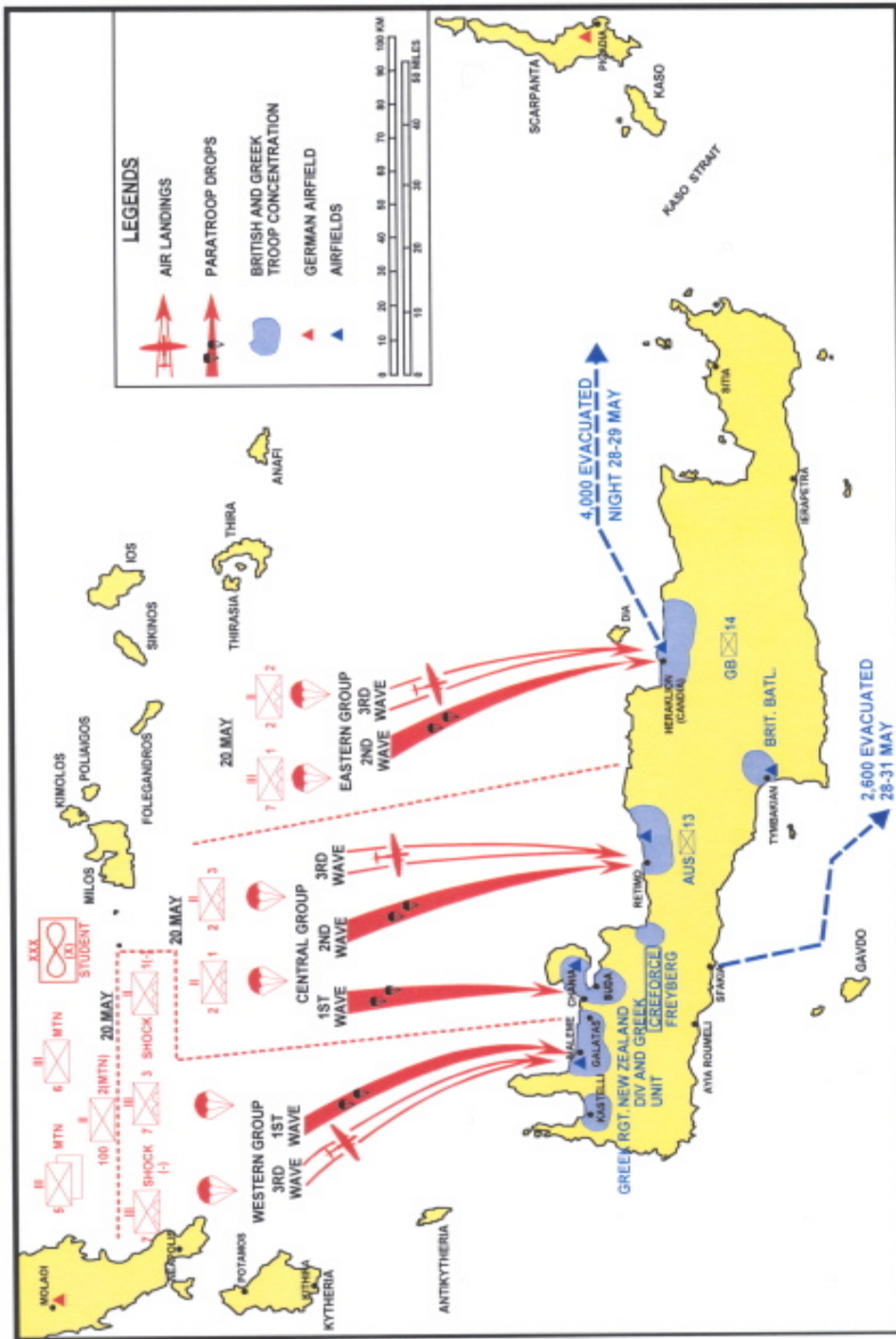
General Loehr directed the VIII Air Force to support Operation Mercury with operational fires in support of the German operational plan (Appendix A). Through the Air Fleet Directive, Loehr designated critical tasks to General von Richthofen, VIII Air Corps commander, and provided the authority and assets to support the operation. Overall, operational fires were nearly flawless in shaping the battlefield in support of the operational scheme. German air superiority went virtually unchallenged. As previously described, Luftwaffe operational fires also isolated Crete and interdicted allied resupply operations and logistical support by limiting resupply operations to small ships unloading at night. More importantly, allied leaders were unwilling to chance supplying the island with the critical tanks, artillery and vehicles, in short supply throughout the theater and at risk during transport, necessary to establish a mobile defense of the island. Finally, without control of the seas, allies were unable to discount the possibility of a seaborne invasion in support of the airborne invasion already identified by Ultra. Operational fires directly influenced allied capabilities to defend the island and therefore helped set the conditions for the German airborne assault.

### **Operational Maneuver**

Although a critical element of operational warfare and not an operational function by definition, operational maneuver will be considered with the operational functions as a means to discuss the development of the German operational idea or concept for Operation Mercury. Unfortunately, the operational concept was already heavily influenced by the faulty operational intelligence already discussed.

Even with only three weeks to plan and prepare for the assault, two operational concepts competed for selection. General Student's plan capitalized on shock and what

# GERMAN INVASION OF CRETE (OPERATION ) MERKUR 22-27 MAY 1941: OPERATIONAL SCHEME (IDEA)



CD-87-VEGO-165 (JRN)

**Figure 3**

Source: Reprinted, by permission, from Professor Milan Vego, Naval War College, 2001.

he perceived as overwhelming force to defeat a weak and ill-prepared enemy. He recommended seizing seven key objectives to include the airfields at Maleme, Retimo, and Heracklion and the key port at Suda Bay during the first day (Figure 3).<sup>xxvii</sup> General Loehr, Student's superior, recommended a more conservative approach. He favored a concentration of forces, the tip of the spear, "... what he called the *Schwerpunkt* – [that] would concentrate upon one objective only – Maleme airfield and its adjacent Hill 107."<sup>xxviii</sup> Goering made the final decision and, although his Luftwaffe staff sided with Loehr and cautioned that transport forces were insufficient to support a simultaneous attack, decided on a compromise that attacked all objectives the first day, but in two stages separated in both time and space.<sup>xxix</sup> In hindsight, Goering's decision eliminated the shock derived from the true "vertical envelopment" in Student's plan, while also eliminating the mass and concentration of forces from Loehr's plan. This final operational concept, in combination with the shortfalls identified with operational intelligence, further complicated chances for success.

What the plan clearly designated was what we consider today as the allied operational COG (Appendix A). The allied strength was clearly their forces, both sea and land forces, in defense of Crete. The Luftwaffe was tasked to concentrate their efforts on the British naval forces in addition to ground forces defending against the airborne assault.<sup>xxx</sup> The order also designated the focus for airborne forces, "the chief object of attack, is the elimination of the highest island military command and the destruction of the defense forces there."<sup>xxxi</sup> Unfortunately, Student's failure to initially designate a Landing Attack Commander, in conjunction with the failure to develop a detailed ground tactical plan further limited the assault force in their quest to defeat the COG. German planning focused primarily on the seizure of critical forced entry objectives, but it failed to anticipate resistance and placed limited emphasis

on the allied COG. The lack of deliberate and detailed operational planning, complicated by German overconfidence, limited any attempts to consider what one would consider today as the required branches, options planned to shift the operation's focus, or sequels, subsequent actions planned to capitalize on potential results.<sup>xxxii</sup>

In contrast, although allied forces possessed a two to one advantage in the defense, the extensive space they defended significantly diluted this advantage. A mobile defense, employing an operational or at least a tactical reserve sufficient to react to the changing threat, would have been a logical alternative. General Freyburg possessed interior lines of operation without the mobility required to exploit a tactical advantage due to a lack of tanks and transport vehicles. The dual threat and lack of mobility drove the allies to dedicate forces to protect all three airfields and Suda Bay, thus preventing them from achieving sufficient mass at any of these critical locations.

### **Execution**

*Then from out to sea came a continuous, low, roar. Above the horizon there appeared a long black line as of a flock of migrating birds. It was the first aerial invasion in history approaching.*  
(H.D. Dyer, allied officer recording his impression of the invasion of Crete.)<sup>xxxiii</sup>

Although the German leadership failed to designate phases for the operation, these phases are discernible in the planning and execution of the operation. These phases will be used to facilitate an operational analysis of Operation Mercury's execution.

#### **Phase I – Air Superiority and Setting the Conditions for the Assault**

The Luftwaffe maintained air superiority throughout the operation and provided the necessary operational fires to isolate Crete and prevent significant improvements to the island's defenses. The air forces also provided a token tactical deception by conducting routine attacks on the allied defenses on the morning of the attack. German air forces attempted to conduct a separate bombardment of allied defenses immediately prior to the airborne assault. These attacks

were basically unsuccessful due to allied force protection measures, to include the silencing of critical air defense systems until the assault. The tactical close air support did, however, put limited systems out of action and forced defenders to temporarily seek cover.<sup>xxxiv</sup> Unfortunately for the German paratroopers, the air attacks also served to warn the allies of the impending airborne assault.

## **Phase II – Critical Assault using Assault Troops and Parachutists**

The surprise critical to the success of an airborne assault was never attained based on the numerous reasons already described. At 0800 on 20 May, the first gliders, carrying the elite assault troops, landed near the airfields and beaches near Canea. Soon after, approximately 2,000 parachutists jumped from transport planes in waves of 200 at fifteen-minute intervals.<sup>xxxv</sup> The allied forces were prepared for the attack.

Casualties during the initial drop were heavy. German initial capabilities were limited because the airborne forces could not jump with their assigned and crew-served weapons. Additionally, the Airborne Division Commander was killed and the Brigadier General in charge of the Maleme assault force was critically wounded after landing.<sup>xxxvi</sup> The operation was already in danger of failing with heavy losses and key leadership casualties. Further endangering the operation were false reports sent to the operational leadership in Athens that indicated initial success.

Student's plan to overwhelm allied forces through vertical envelopment was faltering based on a lack of surprise and insufficient combat power. In the words of Field Marshal Kesselring at the conclusion of WWII, "airborne operations must always aim at surprise, which has become increasingly difficult but not impossible to achieve."<sup>xxxvii</sup> Ultra and poor German operations security had hampered any attempt at achieving surprise. Additionally, without

sufficient transport aircraft, or a plan to concentrate forces on a limited number of objectives, overwhelming combat power was unachievable. The vertical envelopment, a dynamic maneuver, instead became a frontal assault with insufficient forces to accomplish the mission.

Based on false planning assumptions already discussed, compounded by false reporting, the follow-on airborne operation was launched as planned against Heraklion and Retimo.<sup>xxxviii</sup> An opportunity to concentrate sufficient forces and achieve mass at the initial objective was lost. Due to the staggered return of the first wave, refueling delays, and a general failure to synchronize, the second assault wave arrived at their objectives at 1500 and 1630 hours. Lack of synchronization resulted in deficient fighter and bomber support. The result was greater casualties than at Maleme.<sup>xxxix</sup> Only through the persistence and discipline of the German paratroopers and their junior leaders, in combination with allied tactical failures, did the German forces finally seize Hill 107, the tactical decisive point with operational implications, overlooking Maleme airfield. Capturing the hill provided limited control of the airfield, the tactical decisive point, and complete control of the airfield would achieve the operational objective. German forces had begun to establish a base of operations in which to build additional combat power.

### **Phase III – Airland Operations**

German forces had cleared the airfield at Maleme from most direct fire with the seizure of Hill 107; however, the airfield remained under intense indirect fire from artillery. At the end of the first evening the situation bordered on hopeless and General Student, failing to anticipate heavy resistance and depending on the overwhelming shock of airborne forces, had failed to plan for a true operational reserve to influence the forced entry operation. Operation Mercury was

quickly approaching its culmination point; the airborne invasion was in danger of failing without significant reinforcements

Fortunately, the following morning, a German colonel again demonstrated the German ability to improvise with the assembly of a battalion-sized element of 550 paratroopers. These paratroopers, left behind in the initial assault, jumped west of Maleme to assist in clearing the field of indirect fire to support critical airland operations.<sup>x1</sup> Marginally effective, his impromptu reserve battalion was successful enough to enable the Army's 5<sup>th</sup> Mountain Division and General Ringel to begin landing that afternoon. This shifted the battle in favor of the Germans.

#### **Phase IV – Light Seaborne Operations**

The initial naval convoy set out for Crete, under the cover of the German air force, in an attempt to reinforce the airborne forces. Although initially successful, poor weather prevented the convoy from reaching Crete prior to darkness. At night and without critical Luftwaffe air cover, the convoy was attacked and several vessels containing critical artillery, antitank guns, and supplies were sunk. This was the last attempt at reinforcing the airborne operation until the island was secured. Ground forces were forced to complete the seizure of Crete without the arrival of critical forces and equipment by sea. The operation was accomplished, but not without significant risk of failure and increased German casualties.

#### **Conclusion**

*Crete is a prime example of the truth that force as well as fore knowledge is needed to win battles.*<sup>xii</sup>

The allied forces were unable to overcome deficiencies in equipment and air support even with the exceptional intelligence provided by Ultra. The German paratrooper carried the day, but at significant cost in lives and resources. There were over 6,000 casualties of the 23,000 German paratroopers and soldiers involved in the operation. Poor synchronization of forces in time and space, inaccurate intelligence, and an operational concept that failed to achieve either surprise or



overwhelming mass in the assault overshadowed strengths in unity of command, operational fires, and the improvisation and execution of a dynamic and daring plan.

Hitler initiated Operation Barbarossa to obtain one of his ultimate strategic objectives within twenty-one days of the seizure of Crete. This ultimately prevented Germany from exploiting their hard won victory in Crete. Operation Mercury was not the stepping-stone to the Suez and Middle East and instead became the conclusion of the German Balkan Campaign.<sup>xlii</sup> Hitler considered Operation Mercury to be the final airborne operation for Germany. In Hitler's words to Lieutenant General Student, "... we shall never order another airborne operation, Crete has proved that the days of parachute troops are over."<sup>xliii</sup> Operation Mercury proved to be an expensive victory.

#### MAJOR OPERATIONAL LESSONS LEARNED

*It is unfortunate, Student, but Crete has become the graveyard of the German paratrooper.*  
(Hitler to Lieutenant General Student at the conclusion of Operation Mercury)<sup>xliv</sup>

The United States has employed airborne forces to conduct forced entry operations in several major operations to include Grenada and Panama. The ability to project force over great distances to establish bases of operation remains a capability currently unique to airborne forces. Arguably, the requirement for this capability will grow in the immediate future due to increasing limitations on forward basing and access. Strengths and weaknesses in German planning and execution during Operation Mercury must serve as lessons for future operational commanders and staffs based on the continued operational relevance of airborne forces.

Forced entry airborne operations today will require an even greater level of synchronization than in the past. Synchronization itself is defined as, "the process of arranging or initiating actions aimed at generating maximum relative power at a decisive place and time."<sup>xlv</sup> Although a requirement for all military operations, a successful "vertical envelopment"

requires the extensive synchronization of forces and capabilities in time and space to achieve success – without excessive risk to friendly forces or mission accomplishment. Forced entry operations today may be conducted over much greater distances than those encountered in Operation Mercury and are therefore more difficult to synchronize, even with improved communications. Today the operational commander and his staff have sequencing and synchronization matrices, operation schedules, and superior communications to enhance synchronization. Developing these tools requires detailed, centralized planning and synchronization at all levels. When properly developed they also aid decentralized execution and healthy initiative at the tactical level in support of the overall operational scheme.

Tied to synchronization is the operational commander's requirement for unity of command. "The purpose of unity of command is to ensure unity of effort under one responsible commander for every objective."<sup>xlvi</sup> Airborne forced entry operations are inherently joint in nature and dependent on the capabilities of some or all of the services for success. Additionally, unity of command provides the operational commander with the authority and the flexibility to shift forces in time and space if synchronization is lost.

Once deployed, airborne forces can be extremely vulnerable until reinforced. Without detailed, accurate operational intelligence the operational commander may commit his forces against a numerically or technologically superior enemy. This requires conclusive and accurate operational intelligence that focuses on enemy strengths, weaknesses, and vulnerabilities. Operational leaders and staffs can properly evaluate the sufficiency of their own forces to achieve the operational objective through an accurate assessment of enemy forces and their capabilities.

To isolate the enemy on the objective, reinforcing enemy forces can be separated in time and space through effective operational fires. The operational commander can influence the success of the vertical envelopment through the application of air, land, and sea based fires against enemy targets capable of influencing the operation. Operational fires assist in setting the conditions by isolating the area of operations and shaping the battlefield in support of the operational commander's objectives.

Finally, the operational commander must consider the Principles of War, specifically surprise and mass, when evaluating the feasibility of vertical envelopment as an appropriate method of operational maneuver for a particular operation. The purpose of maneuver "... is to place the enemy in a position of disadvantage through the flexible application of combat power."<sup>xlvi</sup> Properly executed, airborne operations can place the enemy at a disadvantage by achieving either surprise on the objective, mass near or on the objective, or both. The ability to achieve either principle directly influences the feasibility of conducting an airborne operation and the manner of attack.

Airborne forces are most vulnerable during the airborne assault. "The purpose of surprise is to strike the enemy at a time or place or in a manner for which it is unprepared."<sup>xlvi</sup> Lack of surprise results in a prepared enemy, risking mission accomplishment and increasing cost. In today's environment surprise is difficult to achieve. Extensive media coverage can inhibit operations security and place airborne operations at risk. The only means of achieving operational surprise is often through detailed deception planning. The operational commander must consider an alternative method of employment without assurances of surprise.

An airborne attack without surprise requires an airborne assault near, rather than on the objective. This provides the opportunity to concentrate forces, following a relatively unopposed

airborne assault, to achieve mass prior to attacking the enemy flank. “The purpose of mass is to concentrate the effects of combat power at the place and time to achieve the decisive results.”<sup>xlix</sup> Although the shock from surprise is lost, this alternative preserves combat power by avoiding enemy strengths and protects a critical vulnerability of airborne forces.

Failure to apply the operational art to forced entry operations can lead to the mixed results associated with Operation Mercury and a similar lack of support by the strategic leadership for future operations. The operational commander and staff can insure the success of the operation, while reducing risk and cost in lives and resources, and therefore sustain the force to fight another day through the application of operational art.

Department of the Army, Airborne Operations: A German Appraisal, CMH Pub 104-13 (Washington, DC: 1951) 39.

<sup>1</sup> Milan Vego, Operational Warfare, NWC 1004 (Newport, RI: Naval War College: 2000), 324.

<sup>1</sup> Department of the Army, Operations, FM 100-5 (Washington, DC: 14 June 1993), 2-22.

<sup>1</sup> “Part IV. The Mediterranean Theater,” in World War II German Military Studies, ed. Donald Detwiler (New York: Garland Publishing 1979), 119.

<sup>1</sup> Blair A. Ross, “The Battle of Crete and Implications for Modern Contingency Operations,” (Unpublished Research Paper, School of Advanced Military Studies, Fort Leavenworth, KS: 1992), 6.

<sup>1</sup> Peter Denniston, Maps, 1997, <http://geocities.com/CapeCanaveral/Hangar/4602/map.htm/>> [9 April 27, 2001], 1.

<sup>1</sup> Department of the Army, The German Campaign in the Balkans, CMH Pub 104-4 (Washington, DC: 1953), 120, 121.

<sup>1</sup> Department of the Army, German Campaign in the Balkans, 120.

## NOTES

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- <sup>i</sup> Department of the Army, Airborne Operations: A German Appraisal, CMH Pub 104-13 (Washington, DC: 1951) 39.
- <sup>ii</sup> Milan Vego, Operational Warfare, NWC 1004 (Newport, RI: Naval War College: 2000), 324.
- <sup>iii</sup> Department of the Army, Operations, FM 100-5 (Washington, DC: 14 June 1993), 2-22.
- <sup>iv</sup> “Part IV. The Mediterranean Theater,” in World War II German Military Studies, ed. Donald Detwiler (New York: Garland Publishing 1979), 119.
- <sup>v</sup> Blair A. Ross, “The Battle of Crete and Implications for Modern Contingency Operations,” (Unpublished Research Paper, School of Advanced Military Studies, Fort Leavenworth, KS: 1992), 6.
- <sup>vi</sup> Peter Denniston, Maps, 1997, <http://geocities.com/CapeCanaveral/Hangar/4602/map.htm/>> [9 April 27, 2001], 1.
- <sup>vii</sup> Department of the Army, The German Campaign in the Balkans, CMH Pub 104-4 (Washington, DC: 1953), 120, 121.
- <sup>viii</sup> Department of the Army, German Campaign in the Balkans, 120.
- <sup>ix</sup> Walter Ansel, Hitler and the Middle Sea, (Durham, SC: Duke University Press 1972), 203.
- <sup>x</sup> G.C. Kiriakopoulos, Ten Days to Destiny, (New York: Franklin Watts 1985), 6.
- <sup>xi</sup> Vego, 88,89.
- <sup>xii</sup> Department of the Army, German Campaign in the Balkans, 149.
- <sup>xiii</sup> “Part IV. The Mediterranean Theater,” 129.
- <sup>xiv</sup> Department of the Army, German Campaign in the Balkans, 118.
- <sup>xv</sup> “Part IV. The Mediterranean Theater,” 119.
- <sup>xvi</sup> Ansel, 237.
- <sup>xvii</sup> Department of the Army, German Campaign in the Balkans, 142.
- <sup>xviii</sup> Ibid.
- <sup>xix</sup> Ibid., 143.
- <sup>xx</sup> Joint Chiefs of Staff, Joint Doctrine for Intelligence Support to Joint Operations, Joint Pub 2-0 (Washington, DC: 9 March 2000), GL-8.
- <sup>xxi</sup> Ralph Bennett, Ultra and Mediterranean Strategy, (New York: William Morrow and Company, 1989), 51.
- <sup>xxii</sup> Ross, 8.
- <sup>xxiii</sup> Bennett, 51.
- <sup>xxiv</sup> Ibid., 9.

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- xxv Kiriakopoulos, 51.
- xxvi Bennett, 51.
- xxvii Kiriakopoulos, 89.
- xxviii Ibid., 90.
- xxix Ibid.
- xxx Ansel, 217.
- xxxi Ibid., 216.
- xxxii Vego, 634,646.
- xxxiii Tony Simpson, Operation Mercury: The Battle for Crete, 1941, (London: Hodder and Stoughton, 1981), 152.
- xxxiv “Part IV. The Mediterranean Theater,” 129.
- xxxv Ibid.
- xxxvi Ibid., 132.
- xxxvii Department of the Army, Airborne Operations: A German Appraisal, 7.
- xxxviii “Part IV. The Mediterranean Theater,” 132.
- xxxix Ibid.
- xl Ibid., 135.
- xli Bennett, 61.
- xlii Detwiler, 147.
- xliii Kiriakopoulos, 371.
- xliv Ibid., 6.
- xlv Vego, 648.
- xlvi Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington, DC: 1 February 1995), A-2.
- xlvii Ibid.
- xlviii Ibid.
- xlix Ibid., A-1.

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## Bibliography

- Ansel, Walter. Hitler and the Middle Sea. Durham, NC: Duke University Press, 1972.
- Bennett, Ralph. Ultra and Mediterranean Strategy. New York: William Morrow and Company Inc., 1989.
- Boone, Donald. "Goliath Falls Again: Soviet Failure to Exercise Operational Art in the Afghanistan War." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1997.
- Clark, Alan. The Fall of Crete. New York: William Morrow & Co., 1962.
- Davin, D.M. Crete. London: Oxford University Press, 1953.
- Denniston, Peter. Maps. 1997. <http://geocities.com/CapeCanaveral/Hangar/4602/map.htm/> [9 April 2001].
- Ellithorpe, Robert. "The Battle of Crete: One Battle, Two Stories, Two Books", Marine Corps Gazette, Vol. 79, No. 6, (June 1995): 80-81.
- Fallschirmjager in Crete: Operation Mercury. <http://www.axess.com/users/pete/crete.html/> [25 April 2001].
- Flanagan, E.M. "The German Airborne Invasion of Crete," Army, Vol. 40, No. 3, (March 1990): 48-54
- German Invasion of Crete, 20-30 May 1941. <http://www.iol.net.au/~conway/ww2/crete.html/> [9 April 2001].
- Gray, Stephen P. "Anzio (Operation SHINGLE): an Operational Perspective." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1984.
- Kiriakopoulos, G.C. Ten Days to Destiny: The Battle for Crete. New York: Franklin Watts, 1985.
- Miller, John M. "Crete and the Three Levels of War." Unpublished Research Paper, U.S. Army War College, Carlisle Barracks, PA: 1989.
- "Part VI. The Mediterranean Theater." In World War II German Military Studies, edited by Donald Detwiler, 119-147. New York: Garland Publishing, Inc., 1979.
- Perlberg, Miriam F. "Intelligence Lessons Learned from the Battle for Crete, May 1941." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1992.
- Playfair, S.O. The Mediterranean and the Middle East, Vol. II, The Germans Come to the Help of their Ally (1941). London: Her Majesty's Stationery Office, 1956.

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Ross, Blair. "The Battle of Crete and its Implications for Modern Contingency Operations." Unpublished Research Paper, School of Advanced Military Studies, Fort Leavenworth, KS: 1992.

Simpson, Tony. Operation Mercury: The Battle for Crete, 1941. London: Hodder and Stoughton, 1981.

Spencer, John H. Battle for Crete. London: White Lion Publishers Ltd., 1976.

Tata, Anthony. "The Airborne Force Role in Operational Maneuver." Unpublished Research Paper, School of Advanced Military Studies, Fort Leavenworth, KS: 1993.

"Unternehmen Merkur." German Fallschirmtruppe Order of Battle – Kreta 20<sup>th</sup> May 1941. <http://www.eagle19.freemove.co.uk/crete.htm/> [9 April 2001].

U.S. Department of the Army. Airborne Operations: A German Appraisal. Center for Military History Pub 104-13. Washington, DC: Department of the Army, Center of Military History, 1951.

\_\_\_\_\_. The German Campaigns in the Balkans (Spring 1941). Center for Military History Pub 104-4. Washington, DC: Department of the Army, Center of Military History, 1953.

\_\_\_\_\_. Operations. Field Manual 100-5. Washington, DC: Department of the Army, 14 June 1993.

U.S. Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington, DC: 1 February 1995.

\_\_\_\_\_. Joint Doctrine for Intelligence Support to Joint Operations, Joint Pub 2-0. Washington, DC: 9 March 2000.

Vego Milan. Operational Warfare. NWC 1004. Naval War College, Newport, RI: 2000.



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### Directive for Air Fleet 4 (No. 6524)

The following directive was issued from Goering's operations officer on 1 May. The plan, far from complete, was indicative of the improvisation and haste in which the Operation Mercury was planned. The directive passed command from Goering to Loehr and provided initial tasks for planning. This directive is provided as a reference for the paper.

#### DIRECTIVE FOR AIR FLEET 4

*The Commander in Chief Air Force*  
No. 6524/41

*Air Headquarters, 1 May 1941*

1. As a base for air war against Great Britain in the eastern Mediterranean, the occupation of ... Crete is to be prepared (Operation *Merkur*).
2. Command of the undertaking the Fuhrer and Commander in Chief of the Armed Forces has assigned to the Commander in Chief Air.
3. Army, besides forces named in Annex 1, will make available suitable reinforcements, including a mixed armored combat unit in Greece so that they can be transferred overseas to Crete. Navy will secure overseas communications to the island...
4. Preparation and execution of the operation is assigned to Air Fleet 4 (Forces Annex).
5. It is of particular importance:
  - (a) to continuously cover the sea around Crete before and during the air landing and the transport movements of the Navy;
  - (b) to safeguard the air and sea transport by commitment of fighter-bombers and to hold bombers in readiness;
  - (c) to put British sea forces out of action, including attack by air-launched torpedoes;
  - (d) to transfer dive bombers and fighters as soon as possible after complete conquest of airfields (on Crete) for the purpose of combating hostile sea forces;
  - (e) to land the attached 6<sup>th</sup> Mountain Division and the 125<sup>th</sup> Infantry Regiment for the rapid occupation of Suda and Heraklion bays [5<sup>th</sup> Mountain Division was correct, 6<sup>th</sup> in reserve; the 125<sup>th</sup> Infantry Division dropped out];
  - (f) to protect the occupied airfields with anti-aircraft fire;
  - (g) to prepare the transfer of fighters to the island of Scarpanto.
6. Units of the 10<sup>th</sup> Air Corps ... are to be transferred to airfields at which they will base.
7. Designated Army units are to be relocated near takeoff bases.
8. Air Fleet 4 can draw on the 12<sup>th</sup> Army for anti-aircraft protection of Greece and Crete....
9. After occupation of the island, the 11<sup>th</sup> Air Corps will be replaced by 12<sup>th</sup> Army forces as soon as possible....
10. After occupation ... the 8<sup>th</sup> Air Corps will be withdrawn from Greece and will be relieved by the 10<sup>th</sup> Air Corps.
11. Air Fleet 4 is to submit by 5 May 1941:
  - (a) prospective date for the completion of preparations;
  - (b) intended runoff of the operation;
  - (c) arrangements reached with the 12<sup>th</sup> Army;

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(d) arrangements reached with Admiral Southeast.

/s/ Ia [Operations Officer]

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## Chronological Table of Events

<u>Date</u>	<u>Event</u>
25 April 1941	Directive No. 28 covering Operation Mercury is issued.
30 April 1941	Hostilities cease in Greece at the conclusion of the German invasion.
15 May 1941	Tentative date for beginning of Operation Barbarossa.
20 May 1941	Beginning of airborne invasion of Crete.
21 May 1941	German mountain troops begin to land at Maleme airfield.
21-22 May 1941	British Navy intercepts German seaborne forces approaching Crete.
22 May 1941	Air-sea battle in Crete waters.
22 May 1941	German forces secure the Maleme airhead.
26 May 1941	Canea falls.
27 May 1941	Capture of Heraklion airfield.
28 May 1941	British begin to withdraw to south coast of Crete.
28-29 May 1941	British garrison evacuates Retimo.
1 June 1941	German forces reach Sphakia and complete seizure of Crete.
22 June 1941	D-day for German invasion of Russia.