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BEDA FOMM: AN OPERATIONAL ANALYSIS

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE

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Fort Leavenworth, Kansas  
1994

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Beda Fomm: An Operational Analysis

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This study analyzes the Army's doctrinal definition of the battlefield framework through examination of British operations against the Italians in North Africa during the period, June 1940 through February 1941. This illustrates how commanders can consider the battlefield framework in organizing combat power. The study examines how commanders at the tactical and operational levels of war use the concepts of area of operations, battle space, and battlefield organization. This study also shows why tactical and operational commanders must consider each other's battlefield framework. It shows how actions in one commander's framework affects the other's. This study analyzes, through the battlefield framework, General Wavell's actions as the operational commander and their effects on the tactical commander, Lieutenant General O'Connor. Additionally, the study analyzes Lieutenant General O'Connor's battlefield framework and how actions at the tactical level created opportunities for the operational commander.

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Battlefield Organization

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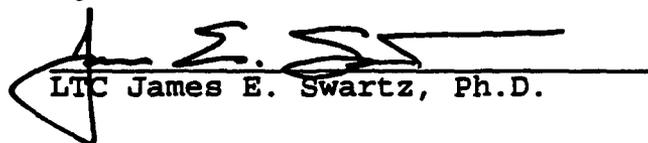
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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (Reference to this study should include the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

## ABSTRACT

BEDA FOMM: AN OPERATIONAL ANALYSIS by Lieutenant Colonel  
James G. Bierwirth, U.S.A. 140 pages.

This study analyzes the Army's doctrinal definition of the battlefield framework using British operations against the Italians in North Africa during the period, June 1940 through February 1941. This example illustrates how commanders can consider the battlefield framework in organizing combat power.

The study explains how commanders at the tactical and operational levels of war use the concepts of area of operations, battle space, and battlefield organization. This study also shows why tactical and operational commanders must consider each other's battlefield framework. It shows how actions in one commander's framework affects the other's.

This study analyzes, through the battlefield framework, General Wavell's actions as the operational commander and their effects on the tactical commander, Lieutenant General O'Connor. Additionally, the study analyzes Lieutenant General O'Connor's battlefield framework and how actions at the tactical level created opportunities for the operational commander.

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CHAPTER ONE  
INTRODUCTION

There is evidence to conclude that the Army needs to look at offensive operations through the perspective of a campaign other than Desert Storm. The U.S. Army's cornerstone manual for doctrine, Field Manual (FM) 100-5, uses Operation Desert Storm among others as a historical example to explain its doctrine. This example, however, is just a short synopsis of the campaign, and does not explain the campaign in terms that relate back to doctrinal explanation.

Thesis Question

The 1993 version of FM 100-5 changes the battlefield framework from five fairly precise subheadings to three. These are area of operations, battle space, and battlefield organization. Battle space and battlefield organization are new terms, while area of operations is defined in essentially the same terms as in the 1986 version. These three terms are explained in a general way, but the historical perspective of Desert Storm included in this section of the manual does not specifically address the terms in the description of operations. I believe this is

an omission in FM 100-5. This thesis will answer the question: Can the elements of the battlefield framework be used to analyze operations? This primary question suggests two important subordinate questions. First, Can the link between the operational and tactical levels of war be analyzed by using the battlefield framework? And, Second, Can this analysis show how the two levels of command must consider the other's framework? By using British operations in North Africa as an example, I will show how these terms can be used to analyze historical operations.

#### Doctrinal Terms

Doctrinal terms will be used throughout the study. They will be developed fully in Chapter IV, and to remain consistent will come directly from the 1993 edition of FM 100-5. Key terms taken directly from FM 100-5 are:

Area of operations. "Within a theater of operations, the JFC may define the lateral, rear, and forward boundaries of a geographical area of operations, including the air space above."<sup>1</sup>

Battlefield framework. "This battlefield framework establishes an area of geographical and operational responsibility for the commander and provides a way to visualize how he will employ his forces against the enemy."<sup>2</sup>

Battlefield organization. "Three closely related sets of activities characterize operations within an AO [Area of Operations] - deep, close, and rear operations."<sup>3</sup>

Battle space. "Battle space includes the combat power of all friendly forces that can be brought to bear on the enemy, including joint and combined forces."<sup>4</sup>

Operational Art. "Operational art is the skillful employment of military forces to attain strategic and/or operational objectives within a theater through the design, organization, integration, and conduct of theater strategies, campaigns, major operations, and battles."<sup>5</sup>

Tactical level of war. "At the tactical level of war, battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces."<sup>6</sup>

#### Contemporary Discussion

The discussion of the battlefield framework before and after publication of FM 100-5 has not cleared up this gap in doctrine. Articles by the Army's Chief of Staff and the commander of the Army's Training and Doctrine command have only discussed the need for a new doctrine, new elements of the doctrine, but neither has addressed the new definition of the battlefield framework and how these elements work together.<sup>7</sup>

In his article of December 1993, The TRADOC commander only briefly addressed the second element of the battlefield framework, battle space as " a new thought to expand our thinking beyond the necessarily linear confines of the Cold War."<sup>8</sup> Additionally he wrote battle space "should force us to remember that battle does not have to be linear or contiguous and that concentrating effects, not necessarily always forces, is the aim of mass."<sup>9</sup> This adds to an understanding of battle space, but it does not help close the gap of how the battlefield framework works together, nor does it add to understanding the framework at the tactical and operational levels of war.

Two serving corps commanders entered the discussion in the December 1993 issue of Military Review. General Paul E. Funk, III Corps commander described battle space as

Battle space provides a framework for commanders to view potential missions, freeing their thoughts from physical restrictions and allowing them to consider mission, enemy, terrain, troops, and time available uninhibited by externally imposed graphics.<sup>10</sup>

While this is in line with the doctrinal definition, his discussion of battle space from squad through task force level only addressed actions within each leaders area of operations. He did not address the element of battle space that extends beyond a commander's area of operations. Additionally, he did not show how battle space considerations lead to battlefield organization.

In his article, General Funk generated a number of battle space questions for each level of leadership. He did not, however, show how answering these questions could lead to battlefield organization.<sup>11</sup> In all, this article only addressed one aspect of the battlefield framework and did not show how the elements of battlefield framework relate to each other.

LTG H. Hugh Shelton of XVIII Airborne Corps, in his article, confused the terms battle space and area of operations. He addressed how battle space consideration adds depth to the battlefield: "Simultaneous attack of enemy formations or critical points throughout the battle space will cause the enemy to lose the coherence of his attack or defense."<sup>12</sup> While attack in depth throughout a given battle space is important, General Shelton did not explain the key element of who controlled the attacks. Additionally he did not explain how simultaneous attack in different areas of operations provide effects on the battle space of different commanders.

General Shelton used Desert Storm as the example in his article. In it he confused the terms area of operation, battle space, and battlefield organization. "Corps achieved depth through the placement of corps forces in the battle space: the covering force area, main battle area and rear area."<sup>13</sup> This statement does not consider how this organization was affected by a consideration of the corps'

entire battle space. It does not consider portions of the battle space that were beyond the area of operations. The key question is: How did a consideration of units adjacent to the corps, such as Arab coalition forces and Marines affect the way the corps commander organized the covering force, main battle area, and the rear area?

What is missing in both corps commanders articles is how actions outside the corps area of operations, but within the battle space, affect operations to include organizing forces on the battlefield. Additionally, they do not consider the effects on the enemy by actions of adjacent units within the battle space and how these actions can be synchronized with their own to generate greater destruction of the enemy. This thesis is an attempt to fill this void.

#### Sources

To describe the actual campaign a number of comprehensive histories were used. These include the official British history of the Mediterranean theater of war. Other major works in this area include; Barrie Pitt's *The Crucible of War, Western Desert, 1941*, Correlli Barnett's *The Desert Generals*, and C.N. Barclay's *Against Great Odds*. Barclay's book quotes extensively from General Richard O'Connor's typewritten after action report of the campaign. Numerous other books and professional journal

articles contributed to a complete picture of this campaign and its significance to today's soldiers.

#### Significance of the Study

This study is significant to military professionals of the late twentieth century for three reasons. First, it will help soldiers focus their understanding of 1993 doctrinal terms as they study military history during self-development and formal military education. Second, it may assist in integrating tactical and military history instruction at Army schools. And third, by using another nation's campaign as the historical example, it may help one of our closest allies understand our doctrine in a historically familiar setting.

The campaign itself is significant in that it is an example of a single corps, initially known as Western Desert Force, along with air and naval forces conducting an operational campaign to achieve a strategic goal. The campaign was a dramatic success for a British force that never exceeded 32,000 men over an Italian force that numbered 250,000. This campaign can serve well as an example for the U.S Army to study, as the Western Desert Force and the British Middle East Command, in 1940 and 1941, operated under many of the conditions our doctrine states U.S. forces will face in the 1990s.

The first of these conditions, which is consistent throughout FM 100-5, is the requirement to fight as a joint force. The U.S. Army of the late twentieth century will not fight alone. It will fight an integrated joint campaign with air, sea, and special operations forces. The British Middle East Command of 1940-1941 also fought a joint campaign. Included were: ground combat operations that pushed the Italians out of Egypt to their destruction in eastern Libya; and an air campaign that provided close air support, interdiction against Italian lines of communication, and offensive air actions to destroy the Italian air force. A naval campaign in conjunction with air and ground operations also was fully integrated throughout the theater. Operations by the Royal Navy provided close support to ground forces and interdiction with naval gunfire against Italian forces along the Mediterranean coast. Additionally, the Royal Navy supported the campaign by dominating the sea lines of communication between Italy and Libya with attacks on Italian convoys, along with protection of supply and equipment convoys from Great Britain. A fledgling special operations force added to the campaign by harassing the Italian southern desert flank and diverting forces and attention away from the decisive area.

Another condition of today's operations is that a unified commander-in-chief will command all forces in a designated theater. To coordinate joint operations the

United States has developed unified commands that are responsible for a specific geographic area of the world. In contrast to modern American unified commands, the British Middle East Command of 1940, commanded by General Archibald Wavell, was responsible for land operations. Naval forces were under command of the Naval Commander in Chief, Mediterranean; and air forces were commanded by the Air Officer Commanding, Middle East. These three separate commanders were responsible to the government in London, but were required to coordinate their efforts. This command arrangement may seem unwieldy to today's officers, but it did work in action, as will be seen throughout this work. The fact that it did work is a tribute to the professionalism and the unique personal relationships among the commanders.

This was a huge area to control as the British Middle East Command covered Egypt, the Sudan, Palestine, Transjordan, Cyprus, British Somaliland, Aden, Iraq, and the Persian Gulf. This large area relates directly to the organization of a unified command's area of responsibility as described in the Army's doctrine of 1993. All of Middle East Command in 1940 was essentially a theater of war. Within this theater of war were a number of distinct theaters of operation with different threats. Threats from the Italians included the Western Desert of Egypt and East Africa. Other theaters of operation included Palestine,

where the threat was Arab-Jewish conflict, and the Persian Gulf, where the danger was Iraq's relations with Germany. There were also very real threats to the theater's northern flank with German interest in the Balkans, and Italian operations against Albania and Greece. Key to the entire area of responsibility was a communication zone centered on the Nile Delta and the Suez Canal.

To organize this large area and keep the span of control reasonable, subordinate commanders were designated by the Commander in Chief, Middle East. In the Western Desert, Lieutenant General Richard O'Connor commanded Western Desert Force against Italian forces in Libya, while Major General William Platt commanded British forces in the Sudan, facing the Italians in Ethiopia. Commanders throughout the theater were assigned missions to accomplish with both operational and strategic objectives. The small amount of force assigned to the theater had to be juggled from one theater of operations to another to provide sufficient mass to defeat an enemy in one area, then quickly redeploy to another area to face a new threat or fulfill another task. This use of commanders and limited resources is a situation faced by American forces in every potential theater of war today.

Another similarity between this campaign and now is that of forward-deployed forces. As with U.S. forces stationed abroad, the British of 1940 had a small force

forward deployed in Egypt. This force, the 7th Armoured Division, which had been formed in Egypt in 1938, was seen as insufficient in its capability to either deter or defeat an Italian attack from Libya. To provide a margin of success, the 4th Indian Division was sent to the Western Desert to strengthen the defense. Additionally, forces also were deployed from Great Britain and Australia to allow the potential for offensive operations.

As with any modern deployment, these also were joint operations involving sealift and air support. Deployments were not limited to land forces. Additional air assets were sent to bolster the theater's ability to defeat an Italian attack and to support a British counterattack. On arrival in theater, forces continued to train for combat. The 4th Indian Division was initially trained and embarked for action in East Africa. Its diversion to the open desert of Egypt caused it to refocus its training to desert operations with an attached tank unit.

These operations in 1940-41 were also conducted under three other conditions American forces face today. First, British forces throughout the Middle East were greatly outnumbered by the Italians. Secondly, British forces held at least a slight technological edge over the Italians in tanks and aircraft along with superior training and doctrine. And third, operations were conducted in a logistically austere theater at the end of a long supply

line that stretched from the United Kingdom, and from elsewhere in the British Empire. As an example, operations in the Western Desert were supported by one road and limited port facilities along the Mediterranean coast. These three conditions are typical of operations faced by U.S. forces in the late twentieth century.

#### Development of British and Italian Forces

Before proceeding into the background of the campaign a short description of how the opposing forces in this campaign were developed during the inter-war years is in order. As this is an analysis of the British side of the campaign, British Army development during the years between WW I and WW II is emphasized. This is followed by a short explanation of Italian Army development during the same period.

#### British Forces

Throughout the interwar years the writings of the military theorists B. H. Liddell Hart and J. F. C. Fuller influenced the decision makers of the British Army. Fuller's influence began near the end of World War I, when he proposed a full-scale attack for the spring of 1919 that would involve the use of tanks on a scale unheard of before, to strike deep into the German rear area to destroy command and control and the support base of the front line troops.<sup>14</sup>

This theory of striking deep into the enemy rear area would remain a hallmark of Fuller's ideas throughout this period.

Fuller's first major work after World War I was the *The Reformation of War*, published in 1923. This work set forth his thoughts on how future war should be fought by describing possible scenarios and making the case for the extensive use of the airplane, tank, and poison gas in any future conflict.<sup>15</sup> He also provided details of how the British Army of the future should be organized from the top down.<sup>16</sup> Fuller also described the two types of tanks for this future army. One, a fast tank designed to move fast and strike the enemy's headquarters and supply and rail centers while a slower heavily armed tank would move with the attacking infantry to destroy the frontline troops.<sup>17</sup> We will see later how these ideas of Fuller's were translated into the equipment and organization of the British armored force on entering into WW II.

Fuller's next work, *The Foundations of the Science of War*, published in 1926, attempted to develop a systematic way of studying war, based on basic principles and laws that could always be applied.<sup>18</sup> This book and other publications and lectures at the British Staff College kept the idea of mobile armored warfare in the forefront of British Army professional discussion during the 1920s. It also attracted a number of other advocates that would influence the

doctrine and organization of the British Army as it evolved to what it was in 1940.

Part of Fuller's influence on doctrine was the incorporation of his principles of war in *Field Service Regulations* (F.S.R.), the official doctrine of the army. These principles were published in the 1924 edition of F.S.R. and stayed in regulations through 1929.<sup>19</sup> His influence can also be seen in the British concept of light, medium and heavy tanks developed in the 1930s.

Debates over the use of tanks continued into the 1930s. The F.S.R. of 1935 show clearly that two separate tracks had developed in the British Army for the use of tanks. On one side were the tank advocates who believed in Fuller's theories. These officers, particularly Charles Broad, Percy Hobart, Frederick Pile, and George Lindsay, championed the cause of armored warfare to replace the conventional thinking of the past and lead armored formations through the 1930s.<sup>20</sup> On the other side were those who believed the tank was important but did not feel a separate armored force should be developed at the expense of the army as a whole, which was attempting to motorize the force on the limited budgets of the 1930s depression years.

Though the tank advocates pushed for all tank formations, the other leading British theorist of this period, Liddell Hart maintained a more balanced view of the tank and its need to work within a combined arms

organization. In a training manual Liddell Hart drafted for the army after WW I, he incorporated the successful German tactics of infiltration and use of reserves from the spring offensives of 1918 and the equally noteworthy Allied tactics that worked for the Allies at the end of the war.<sup>21</sup> In writing this manual Liddell Hart developed his tactical idea of the "expanding torrent." This idea built on the penetration attack and called for moving the reserves quickly behind the successful lead elements to maintain momentum through the depth of the enemy's defense.<sup>22</sup> Though the eventually published *Infantry Training* was, according to Liddell Hart, watered down with official language and the elimination of some diagrams; his basic ideas remained in the subsequent editions of this manual throughout the interwar years.<sup>23</sup>

Jay Luvaas in his book *The Education of an Army*, outlines Liddell Hart's influence on the army in the 1920s. Three of his books; *Paris or the Future of War*, *Great Captains Unveiled*, and *A Greater Than Napoleon*, were officially recommended for reading in 1927 for the theoretical preparation of the experimental mechanized force. Liddell Hart, agreed in concept with Fuller on the use of tanks and the need to strike deep into the enemy's rear area. He differed with Fuller in one major respect: the use of infantry. Where Fuller was an advocate of all tank formations, Liddell Hart stressed the need for a more

combined arms approach with infantry mounted in special transporter tanks.

Not all of the ideas of Fuller and Liddell Hart were adopted by the British Army. Conservatism in the higher echelons of the army was partly responsible; lack of funds allocated to the army during the early to mid 1930s was also responsible. With the growing German and Italian threats Britain began to rearm in the late 30s but did not field its first armored division, called the "Mobile Division," until 1938. The organization of this division clearly shows the influence of Fuller. As authorized, this division contained three armored brigades with seven light tank and two medium tank battalions with two motorized infantry battalions and two artillery battalions. At essentially the same time the British Army also authorized the formation of three army tank battalions equipped with the heavier infantry tank.<sup>24</sup>

Though the preparation of the British Army would not be complete at the start of WW II, it had conducted exercises throughout the interwar years and had prepared a doctrine that had been widely discussed and debated throughout the army. Their first opponents in the Western Desert were not so fortunate.

#### Italian Forces

In preparation for the battlefields of WW II the Italian Army suffered many problems. According to John J.

T. Sweet in his book *Iron Arm: The Mechanization of Mussolini's Army, 1920-1940, Italy* "... was unable to provide the economic and industrial basis to build a modern mechanized army."<sup>25</sup> Additionally, the Italians did not have advocates of the caliber of Fuller and Liddell Hart. Sweet, however, throughout his book, persuasively makes the case that the Italian officer corps did study, experiment with, and understand the theories of armored warfare. Throughout the 1920s the Italians had a doctrine based on infantry tactics. This called for the infantry to be made up of an assault wave, reserve wave, and an exploitation force that included cavalry. Artillery, machine guns, and tanks supported the attack by dealing with resistance.<sup>26</sup> The doctrinal use of tanks in the Italian Army changed in the 1930s; however, during maneuvers in Libya in 1938, the tank battalions attached to the infantry divisions acted only as infantry support.<sup>27</sup>

By 1927 tanks were still viewed as support for the infantry though they were to be used in mass and in depth. Antitank defenses were addressed with the use of cannon, high powered rifles, and mines. Tank versus tank combat was not discussed.<sup>28</sup> This basic doctrine continued until 1935, when new manuals called for a war of maneuver with bold action and initiative. Unfortunately, no new tactics were introduced.<sup>29</sup> In 1938, however, a major shift took place in Italian doctrine. Tanks in support of infantry divisions

still continued their role of fire support, but tanks assigned to the newly authorized armored divisions were clearly for use in maneuver against an enemy flank or an overwhelming attack to penetrate the enemy frontline. This doctrine did have defects. Antitank guns remained the primary method of dealing with enemy tanks, with little mention of tanks taking on enemy tanks.<sup>30</sup> This was the doctrine the Italian Army was ready to implement when it declared war in June 1940.

How the British and Italian armies implemented their doctrines will be seen in the campaign description in Chapter Three.

CHAPTER TWO  
THE STRATEGIC OVERVIEW

Great Britain's strategic outlook on the day Italy declared war was grave. Britain's close ally, France, was preparing to seek an armistice with Germany as Italian forces invaded along the Riviera coast. Most of the British Army was safely evacuated from Dunkirk; however, its heavy equipment was abandoned on the beaches. Throughout the world Britain faced a number of threats and faced them alone. In anticipation of a French collapse, the British Chiefs of Staff prepared a written estimate in mid-May.

The underlying assumption of this estimate, discussed by the Cabinet on 27 May was a complete collapse of French resistance and their eventual armistice with the Germans. With this eventuality the British chiefs believed Italy would enter the war. Without French interference, the chiefs estimated the Italians would threaten Malta, Gibraltar, and Egypt. Based on this, the German blockade of the British Isles, and the need to keep part of the Royal Navy in the Far East, the Chiefs of Staff thought they could not control the eastern and western Mediterranean Sea. Their original strategy was for the French fleet to take

care of the western Mediterranean while the British fleet based out of Egypt, controlled the eastern Mediterranean. This strategy was now clearly untenable. Additionally, the chiefs believed all of the French North African coast from Algeria to Morocco, the Balkans, and the Iberian peninsula would come under enemy domination.<sup>1</sup>

Concerning the war with Germany, the chiefs thought the Germans would use three basic methods to defeat Great Britain. First, air attacks to destroy civilian morale. Secondly, attacks on shipping and ports to starve the nation. Finally, invasion of the United Kingdom itself to end the war. To counter this, the Chiefs of Staff would continue the blockade of Germany while waiting for help from the rest of the Empire. Key to this strategy was continued financial and economic help from the United States. With this combined Empire and American help the chiefs believed they could eventually wear the Germans down. On the Far Eastern front, the Chiefs of Staff believed the Japanese would try to exploit any opportunity created by the French collapse. The chiefs further stated that it would be impossible to reinforce the fleet in the Far East and that the United Kingdom would have to depend on the United States to counter Japanese opportunism.<sup>2</sup>

Once the French finally surrendered on 22 June 1940, Great Britain had to face very serious results. One major concern was the disposition of the French fleet. The

British wanted the French Navy to either join them to continue the fight or sail the ships to British ports and have the crews repatriated to France. If the French felt they could not do that, the British wanted the fleet to sail to American waters for internment. Above all, the British did not want the French fleet to fall into German hands for possible use against them. Through a series of negotiations the French and British came to an impasse and on 3 July the British attacked the French fleet in the harbor of Oran in Algeria. In Alexandria, Egypt, the French admiral stationed there agreed to disable his ships and repatriate the crews back to France. Continuing their objective of keeping the French fleet removed from German hands, the British attacked and seriously damaged a French battleship in the West African port of Dakar on 8 July. Additionally French ships in the Caribbean eventually were removed from the war with the assistance of United States negotiations.<sup>3</sup> Though this episode caused great damage to Anglo-French relations, it did remove a powerful naval threat from the Mediterranean and prevented a possibly dangerous reinforcement of the German fleet for a tighter blockade or invasion of the British Isles.

Other consequences of the French defeat and Italian entry into the war were the closing of the Mediterranean to through traffic and the control of Dakar by Vichy French forces. Strategically, the closure of the Mediterranean

caused the British to divert shipments to Egypt from the Gibraltar route to the much longer route around Africa by way of the Cape of Good Hope. The loss of Dakar enabled the Germans to resupply submarines there and extend attacks into the southern shipping lanes of the Atlantic. To protect the vital support from the United States on southern Atlantic routes the British Chiefs of Staff were worried about the Azores and Cape Verde Islands. The control of these islands by the Germans would have tightened the blockade on Britain by submarine and surface raiders. To prevent this the British planned for invasion of these islands but decided against it unless Spain and Portugal entered the war on the Axis side.<sup>4</sup>

At this time in Britain itself, the main concern was the threat of invasion. The Battle of Britain began on 10 July and reached its climax in September when the invasion threat was highest. Concurrently, the Japanese decided to capitalize on the French collapse on two fronts. The first was in China where Japan saw an opportunity to finish off the Chinese forces under Chiang Kai-Shek. To help accomplish this the Japanese demanded Britain close the Burma Road, over which supplies were sent to Chiang's forces in southern China. In the debate that followed, the British eventually decided to accommodate the Japanese by closing the Burma Road for three months, from 18 July to 18 October. The British did this to avoid war with Japan when all of

their efforts were required in the European theater. Also, the British leadership felt it was not worth risking war with Japan over a matter that was not essential to the survival of the nation.<sup>5</sup>

The other area of concern was French Indo-China. The British felt the control of this area would allow the Japanese the ability to strike overland at the vital raw materials contained in Burma and Malaya. This would also put at risk the large naval base and docks at Singapore. To defend Singapore and Malaya the British Chiefs of Staff figured they needed 336 aircraft compared to the 88 already on hand. Combined with the 144 Dutch aircraft in the theater the total was still much less than desired. The minimum ground forces required was estimated at three divisions with supporting troops. At the time the only troops available were garrison troops guarding vital installations. At sea the British had no capital ships and would not send any to the Far East until the Italian fleet was neutralized.<sup>6</sup> To bolster the defenses the Chiefs of Staff recommended an Australian division be sent to Malaya, but Churchill disagreed. Churchill believed the Empire had to take risks in some theaters, and he would take one in the Far East. The Prime Minister felt the Japanese would not attack and the Australian division was needed in the Middle East to face the Italians.<sup>7</sup>

In the Middle East itself, the Italians were capable of launching attacks into Egypt from Libya and into British Somaliland from Italian East Africa. This was an important threat as the British rated the Middle East as the next most vital theater of war after the defense of the British Isles. To protect this essential area the Chiefs of Staff told the Commanders in Chief in the Middle East the overall strategy was defensive, though local counteroffensives should be taken when possible. The defensive strategy in order of importance was to Egypt first, then the Sudan, Iraq, Palestine, Aden, and Kenya. The importance of the area was not so much due to the Suez Canal but to the protection and access to the oil fields of the Persian Gulf area.<sup>8</sup>

The first Italian attack came in East Africa. Italian forces attacked British Somaliland on 3 August and eventually forced the British to withdraw on 19 August. Though militarily this loss was not critical to British strategy in the area it bothered Churchill a great deal. Churchill thought this was a great moral victory for the Italians and was concerned the loss of British prestige would encourage the Italians.<sup>9</sup> Less than a month later the Italians did indeed launch their attack into Egypt. The Italians attacked on 13 September, advanced approximately 60 miles into Egypt, then stopped to consolidate and build up forces for a further push to the east.

With the Italians halted and consolidating in both East Africa and Egypt, the British soon faced another danger in the Middle East theater. This was the Italian invasion of Greece on 28 October. The Greeks immediately asked for naval and air support from Great Britain. The request was based on British willingness back in April 1939 to guarantee support should Greek independence be threatened.<sup>10</sup> Royal Air Force elements were quickly sent, though this left Egypt very weak in air support. Additionally, General Wavell, the Commander-in-Chief Middle East, was authorized to send a brigade to Crete to protect harbors and airfields. The Royal Navy also moved elements to establish anti-submarine defenses.<sup>11</sup> This move into Crete allowed the Greeks to withdraw forces from the island for fighting on the mainland. As such, the Greeks stopped the Italian advance and threw them back into Albania by mid November. With the Greek front stabilized, the British were able to embark on their offensive against the Italians in the Western Desert of Egypt.

Italy's outlook was quite different from Great Britain's. Though Italy was bound to Germany by the Pact of Steel, the Italians did not enter the war until the French collapse was guaranteed. In fact Mussolini had informed Hitler in May 1939 that Italy would not be ready for war for at least three years.<sup>12</sup> The earliest Mussolini had ever considered entering the war was spring 1941. Later he

revised this to June 1940, based on Germany's campaigns against Norway and Denmark and the imminent collapse of France. Based on his own unpreparedness for war, Mussolini expected to stay on the defensive on land, but contemplated an attack into Yugoslavia.<sup>13</sup>

Mussolini did think the war would not last long and decided to enter it to reap the benefits of victory without fighting. Italy's aim in joining the war was to dominate the Mediterranean. Mussolini's idea of a sphere of domination included Nice in France, Corsica, Malta, Tunisia, the Sudan, Aden, and potentially part of the French central African colonies. From this, Italy wanted to have influence over Algeria, Morocco, Spain, Portugal, Greece, Bulgaria and Turkey.<sup>14</sup> Based on this desire to control Europe south of the Alps, Mussolini entered the war at a time he thought would allow him a say at the negotiating table. Mussolini thought this strategy would prove Italy was a great power without incurring great losses to prove it.

Italy's attack on France just prior to the Franco-German armistice, did little for Italian prestige. It was a great embarrassment to Mussolini to have the French bring his own army to a standstill and inflict 631 deaths on the Italians to 37 killed on the French side in the Alpine campaign.<sup>15</sup> A further knock on Italy's prestige was the loss of a third of its merchant fleet on declaration of war. This happened because Italy had no plans for the ships to

leave foreign ports prior to the outbreak. These ships were either captured or interred with a subsequent loss of supplies. This failure was brought on by the administrative confusion in Italy caused by Mussolini's consolidation of decision-making powers in himself and his neglect of details.<sup>16</sup>

Following the French collapse, Italian strategy can be described as erratic and subject to Mussolini's vacillation on how to accomplish his overall aim. With France out of the war and Great Britain faced with German invasion, Mussolini believed the war was going to end and wanted to grab as much territory as he could before negotiations began. His belief in a short war caused him to make some flawed decisions. For example, he ordered a partial demobilization of the army to provide help for the harvest while deciding to attack Yugoslavia and Egypt.

Germany did not want Italy to move against Yugoslavia. The German's were concerned an Axis attack on Yugoslavia would cause the Russians to come to the aid of the Yugoslavians. In July 1940, the German foreign minister, Ribbentrop, repeated this "hands off" Yugoslavia strategy in harsh terms to the Italian ambassador in Berlin.<sup>17</sup> This rebuff from Germany contributed to Mussolini's decision to attack Greece and show his ally he was capable of taking his own actions in what he believed was an Italian sphere of influence. Rather than

concentrating all his efforts on the Greek campaign, Mussolini fragmented his planning and interest on directing his generals to also invade Egypt and gave approval for action in British Somaliland.

The attack on British Somaliland in August 1940 was not a result of overall Italian strategy, but an operation designed by the commander in the area who in turn pushed it on Rome. The Italian commander was the Duke of Aosta, the Viceroy of Ethiopia and Italian possessions in East Africa. He was aware the strategic position in East Africa was precarious as he was basically cut off from support from Italy as Britain controlled all of Egypt, the Suez Canal, and Aden at the southern end of the Red Sea. Additionally, the Royal Navy could interdict any ships from Italy traversing the Mediterranean, South Atlantic to Indian Ocean route to the east coast of Africa. The Duke of Aosta felt his best alternative was to attack before Britain built up strength in the area. At the start of Italy's war though, the Viceroy was told to remain on the defensive.<sup>18</sup>

At the time, the Duke of Aosta was faced with internal disturbances in Ethiopia that he believed were British instigated. He was also concerned about the leadership in French Somaliland as he thought pro-Free French officers could allow a British attack from that colony into Ethiopia. By the end of July, though a pro-Vichy general controlled French Somaliland, the Duke thought

he had the opportunity to launch an offensive into British Somaliland. This he did on 3 August with the British eventually withdrawing on 19 August. The result for Italy was control of the Horn of Africa and a loss of face for the British.

On the Egyptian-Libyan border Mussolini had urged his commander there to prepare for an offensive but in July again looked to concentrate on plans to invade Yugoslavia. At this juncture the Germans recommended Italy concentrate on North Africa. Mussolini's answer was that he would attack Egypt by the end of the month.<sup>19</sup> A long series of demands from Rome for action and excuses from Libya of why an attack should not occur ensued and lasted throughout the rest of July and into early September. The commander in Libya, General Graziani, eventually launched the attack on 13 September after Mussolini threatened to remove him. The Italians advanced 60 miles into Egypt and stopped in the area of Sidi Barrani to consolidate. These positions were fortified and were essentially the same ones held when the British attacked in December.

The other strategic decision taken by the Italians in fall 1940 was the invasion of Greece. There were two main reasons for the Italian action against Greece. First, Mussolini's foreign minister, Ciano, thought Great Britain would use Greece as a base for action against the Italian mainland. Secondly, Greece under Italian domination would

provide a barrier to continued German penetration in the Balkans.<sup>20</sup> Though allies, the Italians thought the Balkans were in their sphere of influence rather than Germany's.

The Italians launched their attack into Greece from Albania on 28 October. Through a combination of bad weather and unexpected Greek resistance the Italian force was thrown back into Albania by December. In conjunction with this setback the Italian Navy suffered a decisive loss at Taranto when Royal Navy aircraft sunk or damaged the main striking power of the Italian fleet on the night of 11-12 November. Thrown out of Greece, stalled in Egypt and its navy wounded, Italy's strategic outlook was not good and it was vulnerable to attack in December 1940.

To complete the strategic overview a quick review of German strategy in the last six months of 1940 is also required. After the collapse of France, Hitler ordered his staff in July to begin preparation of plans to invade Great Britain. July was the first time Hitler apparently considered an actual invasion of England as it was previously thought that Britains could be defeated or forced to negotiate through naval blockade supported by air attacks.<sup>21</sup> This decision to attack Britain caused the German general staff to start detailed planning. Air superiority over Britain was determined as essential for a successful invasion. To accomplish this, the Luftwaffe

began preliminary attacks on England on 10 July with the start of the main air attacks on 13 August.<sup>22</sup>

The defense put up by the Royal Air Force (RAF) prevented the Germans from attaining the required air superiority over Britain. Additionally, the German general staff had doubts about the project. Liddell Hart quoted General Halder's diary in his post war book, *The Other Side of the Hill*, to sum up this situation as: "We have here the paradoxical situation where the Navy is full of misgivings, the Air Force is very reluctant to tackle a mission which at the outset is exclusively its own, and O.K.W. [Oberkommando des Herres], which for once has a real combined forces operation to direct, just plays dead."<sup>23</sup> As General Halder was chief of the German Army General Staff (Oberkommando des Wermacht) this shows serious misgivings by the officers charged to carry out any invasion. No doubt contributing to these misgivings was the fact that as a central European land power, German generals and admirals were not trained to plan or execute an amphibious operation, nor did they have the equipment or organization for one.

Despite this setback on the invasion of England, Germany still had the initiative on its side for prosecuting the war. It had the forces, armaments, and the advantage of interior lines to dominate the European land mass. With doubt about the invasion of Britain as a viable strategy, Hitler looked to the invasion of the Soviet Union and on 21

July directed the OKH to study the possibilities of a campaign against the Russians in spring 1941. Later, at the end of July in a general military conference Hitler announced his decision to invade the Soviet Union in the spring if a negotiated peace could not be reached with the British.<sup>24</sup> With this decision German strategy in the fall of 1940 was directed to support this enormous undertaking.

To ensure success of the Russian campaign, Germany required a secure southern flank in the Balkans. Earlier in 1940 Germany had entered an oil agreement with Rumania to secure a source of petroleum for its war effort. To further assure Rumanian support, Germany was pleased when a fascist government took control of Rumania in September and invited German troops into the country.<sup>25</sup> Bulgaria was also sympathetic to the German cause and Greece and Yugoslavia were seen as neutral or at least non-belligerents. The concern about the Balkan flank was the principle behind Germany's policy toward Italy of "hands off" Yugoslavia. The Italian invasion of Greece, therefore, upset German strategy in the region.

The Italian invasion of Greece took Germany by surprise as Mussolini had not informed Hitler of his intention to do so ahead of time. This concerned Germany because this action brought Britain to aid Greece. The Germans were concerned British aircraft could attack Rumanian oil fields with aircraft based in Greece. Though

Germany's initial reaction was to let the Italians go it alone, Italy's subsequent failure to defeat Greece caused Germany to plan for a Balkan campaign to commence in spring 1941.<sup>26</sup> Italian failure in Egypt in December also caused Hitler to approve the dispatch of a corps to North Africa to prop up his ally. Both of these actions, in the Balkans and in Africa would have consequences early in 1941. German forces sent to North Africa originally to prop up a weak ally had spectacular tactical success and tied down large British forces there until 1943. The Balkan campaign caused a delay in the invasion of the Soviet Union that many historians feel was instrumental in Germany's failure to defeat the Russians in 1941.

## CHAPTER THREE

### THE OPERATIONAL CAMPAIGN

In command of the British ground forces in the Middle East were two highly experienced soldiers, well thought of throughout the army. The first was General Sir Archibald Wavell, Commander-in-Chief Middle East. Along with his fellow commanders-in-chief of the Royal Navy and Royal Air Force, Wavell was responsible for the strategy, operations, and forces in his vast Middle East Command (Figure 1). The second officer was Lieutenant General Richard O'Connor, in command of the Western Desert Force, headquartered at Maaten Baggush, deep in the desert. Both officers had fought in WW I, and both had held important command and staff positions during the interwar years.

General Wavell had taken command in the Middle East in August 1939, after commanding Southern Command in southern England.<sup>1</sup> Wavell's new command, and in particular the desert border with Italian Libya, would cause Wavell to rely on his combat experience from the First World War and his knowledge of the strengths and weaknesses of armored and mechanized formations, learned during training in the interwar period.

Wavell spent the early months of WW I on the Western Front, first as an intelligence officer then as Brigade

Major of the 9th Infantry Brigade in the deadly Ypres Salient. In June 1915 he was wounded and lost his left eye.<sup>2</sup> After a period of convalescence and time on the staff at General Headquarters, he served as the liaison officer for the War Office on the Russian Caucasus front. He served in this position from November 1916 until spring 1917, when the gathering momentum of the Russian revolution caused his recall to England.<sup>3</sup> On return from Russia, Wavell was sent to Palestine as the liaison officer from the War Office to General Sir Edmund Allenby, the commander of the Egyptian Expeditionary Force (EEF).<sup>4</sup> Later in 1918, Wavell was promoted to Brigadier General and assigned as Brigadier General Staff of XX Corps, EEF.<sup>5</sup> This assignment was key to Wavell's professional education as the campaign in Palestine was one of maneuver affected by desert conditions.

Throughout this campaign Wavell was so impressed by Allenby's leadership and tactics that he later wrote a biography of Allenby. He learned from Allenby three principles he later applied in 1940 to his own battles in the desert. These were transport, water, and secrecy.<sup>6</sup> Wavell also formed his ideas of pursuit of an enemy and described them in his book on Allenby. The following thoughts were undoubtedly influenced his support of O'Connor in the pursuit across Libya in early 1941.

To the uninitiated pursuit seems the easiest possible form of war. To chase a flying, presumably demoralized enemy must be a simple matter, promising much gain at

the expense of some exertion and hardship, but little danger. Yet the successful or sustained pursuits of history have been few, the escapes from a lost battle many. A force retreating falls back on its depots and reinforcements, unless it is overrun, it is growing stronger all the time. The pursuer soon out runs his normal resources.

Wavell was in Palestine when the Great War ended. Throughout the interwar years he held varied command and staff positions. One of the most noteworthy was his association with the Experimental Armoured Force, 1927-1928 as G.S.O.1 of the 3rd Infantry Division. In this position he was virtually chief of staff to the division commander, Major General Burnett-Stuart. Wavell worked very closely with the Experimental Mechanized Brigade. R. J. Collins, the commander of the experimental brigade, in his biography of Wavell related that Wavell had a difficult time developing exercises for the division and the mechanized brigade due to the different speeds at which the formations moved.<sup>8</sup> Much was learned during this period, not only of the strengths of the mechanized force, but also its weaknesses.

Wavell explained his thoughts on mechanization and modernization of the army in an article entitled, "The Army and the Prophets," published in November 1930. In this article he took an objective look at the process and began the article by stating that since armies must always be prepared to fight they " can never discard a weapon, an organization or a tactical doctrine till a new one has been

proved by long and careful experiment."<sup>9</sup> In this article he briefly summed up the changes made and proposed in the army since the Great War. He concluded by stating that the nature of war had changed and the army must adjust to it. He wrote "First-line troops intended for the offense must be mechanized and armoured,"<sup>10</sup> though infantry would still be needed on terrain unsuitable for tanks. Wavell also thought air forces would gain a growing role in war as both a means of attack and for its ability to transport troops quickly over long distances.

Later as a brigade commander, Wavell conducted a series of experiments on the general mechanization of the army. These included the development of battle drills for tracked machine gun carriers and drills for deployment of infantry brigades.<sup>11</sup> Throughout the 1930s Wavell built a reputation as a superb trainer of troops. His methods included more realism and a fostering of the unexpected during training. In contrast to the stage-managed tactical exercises of the day, Wavell said in a lecture given in 1933 that exercises should be "set in motion on a simple scheme, in which the course of events is allowed to develop as naturally as possible, always remembering that a good problem should have more than one solution."<sup>12</sup> In concluding this lecture, Wavell defended his method of training with his idea that if training does not go well that "... however wrong things may go on exercises and

maneuvers, and however hopeless a muddle they may seem to be, remember that war is always a far worse muddle than anything that can be produced in peace."<sup>13</sup>

During the 1930s Wavell went on to command the 2nd Division in England, military forces in Palestine, and Southern Command in England. Through this entire period he gained the experience needed to exercise command in a diverse theater of war with an aggressive attitude tempered by the reality of a situation marked by limited resources but unlimited missions.

Wavell's principal subordinate and commander of the Western Desert Force facing the Italians in June 1940 was Lieutenant General Richard O'Connor. O'Connor had also seen combat in WW I and had served in varied command and staff positions between the wars. Richard O'Connor began the Great War as Signal Officer of 22nd Brigade, 7th Infantry Division, and in 1915 became commander of that division's signal company. Late in 1916 he became Brigade Major of the 7th Division's 91 Brigade, and in March 1917 he was transferred in the same position to the 185 Brigade of the 62nd Division. In this last assignment he experienced heavy combat in the Battle of Arras.<sup>14</sup>

After Arras, O'Connor was promoted to Lieutenant Colonel in June 1917 and placed in command of the 2nd Infantry Battalion of the Honourable Artillery Company.<sup>15</sup> He commanded this unit for 18 months, to include combat at

Passchendaele on the Western Front and after November 1917 combat on the Italian front.<sup>16</sup> O'Connor's biographer, John Baynes wrote that the experience of Passchendaele, with its heavy losses due to frontal assaults, caused O'Connor to always look for a flank to attack.<sup>17</sup> Later in Italy O'Connor was able to attack a fortified Austrian unit from the flank.<sup>18</sup>

After the Great War, O'Connor attended the Staff College and on graduation became Brigade Major of the 5th Brigade of the 3rd Infantry Division in January 1921. This assignment gave O'Connor his first experience during the interwar years with tanks as his brigade conducted a short series of tests combining infantry, artillery, and tanks. O'Connor left this unit in 1924 and served in a variety of assignments to include time on the staffs of Sandhurst and the Staff College. He also served as a company commander in Egypt and India. O'Connor later attended the Imperial Defense College in 1935 and on graduation took command of the Peshawar Brigade on the North-West Frontier of India. This was a large brigade with five infantry battalions, an artillery battalion, cavalry regiment, and two light tank companies. He commanded this brigade for three years.<sup>19</sup>

After command of the Peshawar Brigade, O'Connor was placed in command of the 7th Division, stationed in Palestine, trying to keep a lid on the Jewish-Arab conflict. On 18 October 1938, he was also named Military Governor of

Jerusalem. During this time he dealt with riots and guerilla attacks of an Arab revolt.<sup>20</sup> O'Connor was still in this position as war broke out in 1939 and the 7th Division was moved to Egypt. His division was soon redesignated the 6th Division, as the Mobile Division in Egypt was designated as the 7th Armoured Division. O'Connor was able, during this time, to observe Major General Percy Hobart's training of the armored division until Hobart's departure in November 1939. O'Connor is reported to have said that the 7th Armoured was the best trained division he had ever seen.<sup>21</sup> O'Connor was in Egypt when France collapsed on 17 June 1940 and on that day was placed in command of the Western Desert Force.

The main power of O'Connor's force was the 7th Armoured Division and the 4th Indian Division. Both of these units contained a large portion of long-term professionals that had served and trained together during the immediate pre-war years. Additionally, the garrison at Mersa-Matruh could be task organized to provide a small brigade size force. Corps troops contained standard 25-pounder artillery and a battery each of 6-inch and 4.5-inch howitzers. Of particular importance, corps troops also contained a battalion of 48 Matilda Infantry tanks. These tanks were designed to equip tank battalions that supported infantry divisions. Though hampered by a top speed of only 15 miles per hour, they did have two important advantages.

First, their armor was 78 mm thick and could withstand hits from almost any Italian artillery piece or tank gun. Secondly, the Matilda was armed with a 40 mm main gun which gave it a heavy punch. This one heavy tank battalion would be key to O'Connor's plans to defeat the Italians. All totaled, Western Desert Force could field 36,000 men, 150 artillery pieces, 200 light tanks, 75 medium tanks, and 48 heavy tanks.<sup>22</sup>

In the air, Western Desert Force could count on the support of the RAF's Desert Air Force, its headquarters just a few hundred yards from O'Connor's. Initially the aircraft available to the entire Middle East Theater was neither modern or extensive. There were just 96 light bombers and 75 biplane fighters. Throughout the summer and through the end of the year more modern aircraft were added. By the end of 1940 the theater had the newer Wellington and Blenheim IV bombers and Hurricane fighters. For O'Connor's offensive in December, Desert Air Force was allocated 48 fighters and 140 bombers and support aircraft from the theater RAF commander.<sup>23</sup>

At sea, the Mediterranean fleet had four battleships, nine cruisers, twenty-five destroyers, and one aircraft carrier. In September this force was improved with the arrival of another battleship, two cruisers, and a new aircraft carrier. Additionally, the fleet had three gunboats and a monitor to cruise very close to shore to

provide naval gunfire support to ground forces while the main battle fleet attacked the Italian fleet and protected sea lines of communication.<sup>24</sup> In both of these missions the Royal Navy was successful. Of the first mission, the main Italian fleet was essentially prevented from conducting a major fleet action by the strike on the Taranto anchorage in November. The arrival of the convoy carrying the 7th Royal Tank Regiment's Matilda tanks in September proved the second mission successful.<sup>25</sup> Later during O'Connor's offensive the gunboats supported ground forces and moved in close to shore to attack Italian bases and lines of communication on the coast.

On the other side of the Libyan border the Italians could field a large force that, on paper, appeared capable of overwhelming the Western Desert Force. Within Libya the Italians had a force of 250,000 men armed with 1,811 artillery pieces, 339 light tanks, and 215 medium tanks.<sup>26</sup> This force was organized into two armies: the 5th on the Tunisian frontier with eight divisions in three corps and the 10th on the Libyan border with six divisions in two corps.

Significantly, the Italians did not have any heavy tanks. The light and medium tanks available were essentially obsolete even at this early stage of the war. The light tanks were primarily CV 33 and CV 35s which weighed only 3.2 tons and carried just two machineguns, with

a few models upgunned with a 20 mm gun. The medium tanks initially available were the M11/39. This tank had a 37 mm gun mounted in the hull with limited traverse and two machineguns mounted in the turret. Later in the campaign the Italians were able to introduce the M13/40 to the battlefield. This newer tank was armed with a 40 mm gun in the turret plus three machineguns, but it had a top speed of just 20 miles per hour, which made it slower than the British light and medium tanks. The Italian artillery, armed primarily with 75 mm guns, was highly rated by the British.<sup>27</sup>

As Italy declared war, the Italian Air Force significantly out numbered the RAF. In Libya the Italians had a total of 542 aircraft with 179 bombers, 220 fighters and 143 of other types. Italian aircraft were highly maneuverable and the pilots were considered well trained, some with combat experience in the Spanish Civil War. The Italians also had the advantage of sending reinforcements quite easily across the Mediterranean from bases in southern Italy. The Italian air force's biggest problem, however, was maintenance. It was estimated that of the 542 aircraft only 306 were operational. This was due to the effectiveness of the British naval blockade in interdicting supplies of spare parts, fuel, and ammunition coming by convoy from Italy.<sup>28</sup>

The Italian Navy was seen as a significant threat. With virtually its entire fleet based in the Mediterranean the Italian Navy had six battleships, seven heavy and twelve light cruisers, 61 fleet and 69 escort destroyers. One of the Royal Navy's major concerns were the 115 Italian submarines. This submarine threat did not fully develop and a significant number were sunk during 1940 and early 1941. For air support, other than ship board scouting aircraft, the Italian fleet had to depend on land based aircraft as they had no aircraft carriers.<sup>29</sup>

With these forces, the British and Italians faced each other in June 1940 in a hostile environment for both men and machines. The area known as the Western Desert was approximately 240 miles long by 150 miles wide at its widest point (Figure 2). It was bounded on the north by the Mediterranean coast along which were located the only significant towns. These were Mersa Matruh, Sidi Barrani, Bardia, Tobruk, and Gazala. Across the desert to the south stretched the oases of Jarabub and Siwa before falling into the great sand sea of the Sahara. The desert itself was virtually devoid of terrain features and demanded good navigational skills. The only terrain feature of note was the large escarpment rising up from the coastal lip approximately 500 feet to the Libyan plateau. This escarpment was very steep, with just a few passes up onto the plateau that could be easily defended. The desert

itself is very flat and made up of gravel plain strewn with stones, boulders and a few low scrub plants. The entire area is subject to sudden and intense sand storms. The climate is typically desert harsh. The summer has very hot days and cold nights with winter very cold with occasional heavy rains in the spring and fall. Road lines of communication were limited to a coast road and two well-known tracks east-west in the desert known as the Trigh Capuzzo and the Trigh El Abd.<sup>30</sup>

Once Italy declared war, Western Desert Force moved quickly to control the frontier and gain as much intelligence as possible on the Italian forces. In the first few days the 11th Hussars, a seasoned reconnaissance unit mounted in armored cars, crossed into Libya and began to ambush convoys and bring back prisoners. On the night of 11 June, 11th Hussars captured two officers and 50 soldiers.<sup>31</sup> All of this patrolling and reconnaissance was designed to confirm or deny the British assessment that Italian forces were weak at the frontier but in the process of building up. In addition, these forward British forces were tasked with cutting the lines of communication to the Italian base at the Jarabub oasis.

British efforts were successful in gaining intelligence and in providing soldiers with valuable desert experience. They did not, however, have the strength to prevent the Italians from moving troops closer to the

Egyptian border. To bolster the forces along the border, O'Connor sent forward the 7th Armoured Division's 4th Armoured Brigade. On 14 June this unit crossed into Libya and captured the border posts of Fort Capuzzo and Fort Maddalena. This aggressive cross border action also paid off when 11th Hussars captured the 10th Army's Engineer General in Chief who also had the detailed plans for the defense of Bardia with him. Later in July, 7th Armoured Brigade relieved the 4th to allow for soldier rest and vehicle repair. During this time the Italians continued to move forces forward and O'Connor decided to save wear and tear on the tanks and pulled them back from the frontier in order to save them to fight a major Italian attack. The 7th Armoured Division's Support Group eventually relieved the tankers at the end of July.<sup>32</sup>

The Support Group, commanded by Brigadier Gott, contained three motorized infantry battalions, two artillery battalions, two anti-tank batteries, an incomplete medium tank battalion, and detachments of engineers and machineguns. Gott's mission was to delay an Italian advance without becoming decisively engaged.<sup>33</sup> The 11th Hussars continued to perform reconnaissance on the Italian side of the border. This covering force remained in place as indicators grew of an impending Italian advance. These indicators came from patrols, aerial reconnaissance, and the breaking of part of the Italian Army's cyphers. The exact

timing of the attack was not determined partially to Marshall Graziani's reluctance to attack and to Italian operations security. The British intelligence service believed an Italian advance would come after an increase in radio traffic. There was, however, no increase in radio traffic prior to the invasion of Egypt. British intelligence did correctly forecast the Italians would stop at Sidi Barrani due to supply difficulties.<sup>34</sup>

Throughout the summer Marshall Graziani had continually postponed an advance into Egypt. Eventually Mussolini demanded an attack and Graziani ordered the 10th Army to attack. Tenth Army attacked on 13 September with five infantry divisions and a mixed mobile force under General Maletti. The attack was made close to the coast as the Maletti Group lost its way in the desert enroute to its flanking attack positions and had to be found by the Italian Air Force. This caused Graziani to cancel the flank attack and place Maletti under General Berti of 10th Army rather than operate as an independent command.<sup>35</sup>

The Italians attacked behind a heavy artillery barrage which was avoided by the light and widely dispersed British covering force. The Support Group conducted a series of delaying actions as they gradually fell back in front of the Italian army. The RAF conducted attacks on the advancing columns, and O'Connor ordered 7th Armoured Division to move to positions to be prepared to attack

Italian lines of communication. This action was estimated to develop on 17 or 18 September. The Italians halted, though, on the 16th and began to consolidate.<sup>36</sup> Once this happened the Royal Navy harassed Italian lines of communication as far west as Benghazi, while the RAF continued to attack airfields.

The Italians consolidated their area in Egypt by building a series of fortified camps stretching southwestwards from Maktila on the coast (Figure 3). As they settled in, the British continued to patrol the area between the two forces. The unit primarily responsible for this was the 11th Hussars. They built a clear picture of the strength and layout of the Italian positions. Through constant reconnaissance and combat patrols, the Western Desert Force dominated the 70 miles between the Italian positions and the British concentration area around Mersa Matruh. To give these patrols more fighting capability and take some of the strain off the 11th Hussars, a few were organized as combined arms columns made up of mobile artillery, infantry, engineers, and armored cars.<sup>37</sup> These units built an accurate picture of Italian positions and most importantly found a major gap in the line of fortified camps.

The gap found was a 20 mile space in the area of Bir Enba. To the north were the fortified camps known as Nibeiwa, the Tummars, and Point 90 stretching toward the

coast at Maktila. Southeast of Bir Enba were the camps of Rabia and Sofafi. British patrols found no evidence of any traffic in the Bir Enba gap. This information was extremely important to General O'Connor, for he and Wavell were thinking of an offensive. Where Wavell thought an attack could be made simultaneously against Sidi Barrani on the coast and Sofafi, O'Connor thought this would cause to wide a dispersion of his forces.<sup>38</sup> Subsequently Wavell agreed to allow O'Connor the freedom to develop his own plan.

General O'Connor's plan exploited the gap in the Italian forces and allowed him the ability to take advantage of the mobility of the armored division and the combat power of 4th Indian Division reinforced with 7th Royal Tank Regiment's (RTR) Matilda tanks. The operation, named "Compass" was planned in three basic phases. In the first phase, 4th Indian Division with 7th RTR attached was to move through the Enba gap, then turn north to attack Nibeiba, Tummar East, and Point 90 camps from the rear. Seventh Armoured Division would protect 4th Indian by preventing Italian reinforcement from the Buq Buq area on the coast. Simultaneously, Selby Force, made up of units from the Matruh garrison under Brigadier Selby would attack Maktila on the coast. The Royal Navy would support the first phase by bombarding Maktila and Sidi Barrani. In the second phase 4th Indian Division would continue the attack north toward Sidi Barrani, while 7th Armoured attacked further to the

northwest toward Buq Buq. Depending on enemy reaction, the third phase called for 7th Armoured to either exploit northwestwards or attack toward the Sofafi area. All the while the Royal Navy would continue to attack Italian lines of communication along the coast west to Sollum.<sup>39</sup>

"Compass" also included attacks by the RAF in the interdiction mode and close air support. Through October and November the RAF continued to attack Italian ports along the eastern Libya coast, supply bases, airfields and coastal shipping. Italian airfields were targeted just prior to "Compass" and the RAF was to provide air cover over the ground approach march to prevent Italian air reconnaissance from identifying the advance. Additionally, a mixed force of observation aircraft and fighters would work directly for O'Connor to provide close air support. Air strength was denuded when squadrons were sent to Greece in late October and early November. Concerned this loss of air strength might prevent "Compass" from occurring, the Air Officer Commanding in Chief Middle East took risks in other areas of the theater by pulling squadrons from Aden, the Sudan and Alexandria. This gave the air component of "Compass" a force of 48 fighters and 116 bombers for the operation.<sup>40</sup>

Well trained ground and air troops were certainly key to the success of "Compass," but logistics would make or break the campaign. Western Desert Force did not have sufficient transportation assets to carry the vital fuel,

ammunition, water, food, and infantry the 70 miles from the Mersa Matruh area to the Italian camps. O'Connor decided on an innovative and risky solution. He had his logisticians create two field supply depots between Mersa Matruh and the Italians. These were covered by the Support Group screen. Field Supply Depot number 3, 30 miles west along the coast road would support 4th Indian Division and Selby Force. To the southwest, 40 miles into the desert, Field Supply Depot number 4 would support 7th Armoured Division. These depots were stocked between 11 November and 4 December. Once complete, the transport was available to lift the infantry of 4th Indian Division.<sup>41</sup>

Also important to "Compass" was operation security. Egypt, and particularly the Cairo area, was known to be riddled with Italian agents. To ensure security, Wavell and O'Connor put severe limitations on the amount of information issued. The order was only briefed down to brigade level and written orders were issued just days prior to the attack. The troops were not informed until after the start of the approach march, and the supply depots were explained to them as a defensive move. Additionally, no warning was given to the medical services to expect an increase in casualties.<sup>42</sup> To assist the secrecy of the operation, General Wavell kept a full schedule of social events on 7 December as the approach march began.<sup>43</sup>

To work out the details of the deliberate attack on the Italian camps, Western Desert Force conducted a rehearsal with 4th Indian Division and 7th RTR on 26 November. This was the first time the two units had worked together. The rehearsal, planned and conducted by 4th Indian, was conducted on a replica of an Italian camp. The plan involved a detailed attack marked by intricate timings between the artillery and the assault force, very much like a WW I attack. The infantry attacked dismounted with 7th RTR's tanks interspersed among them. At the after action conference, Colonel Gatehouse of 7th Armoured Division, the senior tank umpire and Brigadier Dorman-Smith, observing for Wavell, argued this type of attack did not take advantage of the speed, surprise, and firepower a smaller force needed to defeat a larger one. They noted the air photographs of the Nibeiwa camp indicated a possible minefield protecting the front of the camp over which 4th Indian planned to attack. The photographs also showed a break in the fortifications where trucks entered the northwest corner. With this information, O'Connor discarded 4th Indian Division's conventional attack and decided to attack the camp from the rear.<sup>44</sup>

The plan called for the artillery to fire on the entire area while 7th RTR followed by infantry in trucks attacked through the gap in the northwest corner. The infantry was not to dismount until the last minute. To

accomplish this unorthodox maneuver, O'Connor had to move his force to a line of departure behind the Italian frontline.

O'Connor decided to make the move in two days as the distance was over 70 miles and he had no tank transporters. All armored vehicles, including the slow Matildas would have to move on their tracks. This would require two days, which meant Western Desert Force would have to spend one entire day out in the open halfway between their base and the Italian positions. The RAF would have to protect them from discovery by the Italian Air Force.<sup>45</sup>

The RAF began their campaign for temporary air superiority over Western Desert Force on 7 December. This included protecting the approach march and attacks on Italian airfields. During these attacks the RAF destroyed 39 Italian aircraft on the ground and attacked the fortified camps.

To further support operations security, junior leaders were told another rehearsal would start on 7 December. This in fact was the actual move forward to assembly areas. The speed of the move was kept slow to keep dust down to avoid detection. Italian forces did not detect the move from the ground, but one Italian pilot saw the move from the air. Fortunately, his report was not believed.<sup>46</sup> Other than this single event the move went safely and undetected. By the night of 8 December, Western Desert

Force was in position. In the north, Selby Force was just south and east of Maktila. Further south, 4th Indian was just 15 miles from Nibeiwa. South and west of 4th Indian, 7th Armoured Division was in position to prevent Italian response from the Sofafi area. O'Connor was at his forward command post at a point called Piccadilly Circus on the escarpment above his concentrating force.<sup>47</sup>

The morning of 9 December, Western Desert Force began its assault. Fourth Indian Division's attack on Nibeiwa was a complete success. Eleventh Indian Brigade with 7th RTR attached, attacked at 0715 supported by divisional artillery through the gap in Nibeiwa's northwest corner. The extent of the gap had been confirmed by a patrol the night of 7 December. In just over three hours of combined infantry and tank action the camp was secure with a cost of 58 British casualties. During this action 5th Indian Brigade moved west of the next objective, the Tummar West camp. Their attack would go in once 7th RTR had refueled, rearmed, and moved to join them.<sup>48</sup>

Fifth Indian Brigade and 7th RTR attacked Tummar West at 1300 from the rear and the camp was essentially secure by 1600. The brigade commander then pushed off a battalion to attack Tummar East supported by six of 7th RTR's tanks. This attack was stopped because of darkness, though plans were made to continue the next morning.<sup>49</sup> The 16th British Infantry Brigade was not committed on 9

December, however, that night they received orders to move north to attack Sidi Barrani.<sup>50</sup>

In the 7th Armoured Division area, Support Group screened the Sofafi, Rabia area, while 4th Armoured Brigade moved north toward Azziziya on the coast road west of Sidi Barrani. Seventh Armoured Brigade remained in reserve, ready to exploit any opportunity. Further to the north, Selby Force, supported by naval gunfire had attacked but failed to dislodge the garrison from Maktila. At this end of the battlefield communications were difficult. Selby did not know of the success at Nibeiba until 1520 and had no communications with O'Connor. As there was a division in Maktila and Selby Force was essentially a small brigade, 1st Libyan Division was able to escape to the west of Maktila.<sup>51</sup> Selby moved on the 10th to attack the retreating Libyans.

Throughout the day O'Connor visited both divisions, talked to their commanders, and observed the action at Tummar East. Late that afternoon at 4th Indian's command post, he gave orders for the next day. Sixteenth British Infantry Brigade was ordered to attack toward Sidi Barrani, while 5th Indian Brigade completed the defeat of Tummar East and Point 90. Seventh Armoured Division was told to send a unit behind the Sofafi camps to ensure they did not escape. The bulk of 7th Armoured division was to continue to move north toward the coast attacking the Italian rear areas and protecting 4th Indian's west flank.

On 10 December, 16th British Brigade attacked from south of Sidi Barrani while Selby Force attacked from the east. This pinned the remains of 1st and 2nd Libyan Divisions and 4th Blackshirt Division against the coast. This Italian force eventually surrendered on 11 December. Also on 10 December, 7th Armoured Division launched its 7th Armoured Brigade toward Buq Buq, 30 miles west of Sidi Barrani, to cut off units escaping along the coast road. The only failure of the day was that of 8th Hussars of 7th Armoured Brigade who failed to prevent the withdrawal of the Sofafi and Rabia garrisons.<sup>52</sup>

On 11 December, Western Desert Force completed the defeat of Italian forces in Egypt. Seventh Armoured Brigade attacked toward Buq Buq and destroyed a good part of 64th Catanzaro Division, taking what they described as "twenty acres of officers and about a hundred acres of men."<sup>53</sup> Though the victory was just about complete, General O'Connor had two major setbacks. One was the failure to prevent the escape of the Sofafi/Rabia units. The second and more severe was the order from Wavell to release 4th Indian Division for operations in the Sudan.<sup>54</sup> O'Connor had been given no warning by Wavell that he would lose 4th Indian. O'Connor did, however, take it in stride and began plans for destroying any Italian forces remaining in Egypt and pursuit into Libya.

At this stage "Operation Compass" was a huge success. In just three days Western Desert Force captured 38,000 prisoners, 237 guns, 73 light and medium tanks and over 1000 other vehicles. British casualties were 624 killed, wounded, and missing.

At this point O'Connor and Wavell decided to follow up their "Compass" victory by continuing to pursue the Italians as they retreated into Libya. To continue the pursuit and keep the pressure on the Italians, the 4th Armoured Brigade of 7th Armoured Division was sent along the Escarpment toward Bardia while a light force organized around the 11th Hussars pursued along the coast toward Bardia. This combined force reached a point 20 miles west of Bardia on 14 December. The remainder of O'Connor's force completed the surrounding of Bardia by 16 December.<sup>55</sup>

Bardia was defended by about 45,000 men from elements of five divisions. They were armed with 12 M13 medium tanks, about 100 L3 light tanks, and 400 medium and light guns. The perimeter itself was 18 miles long and included a long anti-tank ditch tied into the various wadis in the area backed up with double apron wire fences.<sup>56</sup>

To assault Bardia (Figure 4) the British would have to wait until the 6th Australian Division moved up from the Nile delta area to replace 4th Indian Division. During this time O'Connor had to do two important things. First, he had to keep the pressure on the Italian force in Bardia; and

second, he had to build up the supplies necessary to support and attack on Bardia and the resulting pursuit. To keep the pressure up the Royal Navy contributed HMS Terror which bombarded Bardia 14-17 December. This attack was joined by the RAF which flew over 150 bombing sorties against Bardia on the same days before switching to attacking Italian airfields from 18-22 December.<sup>57</sup>

While the navy and air force were harassing the troops in Bardia the focus of O'Connor's efforts turned to building up supplies and bringing up the Australians. To ensure the safety of his supply lines, 4th Armoured Brigade was sent back to attack the enemy still holding out in the Sidi Omar area along the Egypt-Libya border.<sup>58</sup> While this action secured his supply lines, building up supplies continued. This was aggravated by the fact that by the end of December 40 percent of Western Desert Force trucks were inoperable due to the long distances traveled over poor roads. To make up these shortages, captured Italian trucks were used, and British truck units were sent forward from Palestine to alleviate the problem.<sup>59</sup>

With the end of the year Western Desert Force was redesignated as 13 Corps.

The responsibility of attacking Bardia was given to Major General Mackay, the commanding general of 6th Australian Division. He was given 7th RTR to provide an armored punch for this attack even though the unit was down

to 27 operational tanks. O'Connor also directed Mackay to keep one brigade out of battle as he wanted to use it to join 7th Armoured Division in moving on Tobruk once the Bardia battle was completed. Additionally, 16 British Infantry Brigade was moving toward Bardia on 19 December, and O'Connor did not want it used in the Bardia battle so it would also be available for the pursuit to Tobruk. This brigade had been cleaning up the battlefield in the Sidi Barrani area by collecting and moving prisoners and assisting with the establishment of the Field Supply Depots needed for Bardia and beyond.<sup>60</sup>

The attack on Bardia was planned for 3 January. Major General Mackay decided to use different tactics than those used in the successful reduction of the Italian camps in Egypt. Rather than having the heavy tanks of 7th RTR lead the attack, he decided to lead with his infantry under cover of darkness to make the initial penetration through the Italian defenses. Once these were breached he would send the 7th RTR through to exploit the gap. The tanks were to move right and left to roll up the sides of the penetration while other tanks continued deeper into the Italian position to attack the artillery and reserves. The use of the infantry in the lead was key for two reasons. First, the Italian defensive belt was rated as fairly strong, supported by mines which could take a heavy toll on the tanks before they began their important mission. Second,

7th RTR was now down to 27 operational tanks and would need every one of them for decisive action.<sup>61</sup>

To support the attack on Bardia the Royal Navy and RAF lent their support. From 31 December to 2 January the RAF launched 100 bomber sorties against Bardia. In addition, the Royal Navy's HMS Terror and two gunboats attacked the northern sector of the Bardia perimeter on the night of 2 January.<sup>62</sup> Later on 3 January as the infantry and tank attack continued, three battleships and seven destroyers provided a 45 minute bombardment starting at 0810. To ensure the battlefield was safe from Italian air attack, the RAF shifted their effort that day to the Italian airfields at Derna, Gazala, Martuba, and Tmimi.<sup>63</sup>

The 6th Australian Division attacked at 0530 on 3 January with the main attack against the west side of the Italian perimeter. Supporting efforts were made by the 7th Armoured Division's Support Group on the northern edge of the perimeter and by an Australian infantry battalion against the southern edge of the perimeter where the heaviest defenses were. The main attack turned into a tough battle. The Italian artillery fought hard, and the 7th RTR lost a number of tanks to mechanical breakdown as well as direct fire. Additionally, the infantry was slowed by the amount of prisoners captured and the fact they had to walk for the entire 15 mile assault.<sup>64</sup>

Despite the tough resistance by the Italian artillery, the Australians pushed the attack, and on 4 January they got through to the port itself, successfully cutting the area in two. Many Italians surrendered and by midday on 5 January opposition had effectively ceased.<sup>65</sup> With the capture of Bardia, over 40,000 prisoners were taken along with 462 guns, 127 tanks and 700 trucks. All told Australian casualties were 456. The damage to 7th RTR was severe though. At the end of the battle they had just six tanks operational. They would need extensive work to be ready for another such operation.<sup>66</sup>

With the capture of Bardia, O'Connor looked to continue the pursuit of the Italian army. The major constraint to this as throughout the entire operation was the supply situation. Since the beginning of "Compass," Field Supply Depots (FSDs) had been moved forward to prepare for the next operation. The swiftness of the advances, however, ensured each FSD was quickly left behind and barely able to provide the support needed. With the capture of Bardia, O'Connor had hoped its port could be used to alleviate the supply strain. The destruction of the port during the battle and demolition by the Italians before surrender prevented its use. This in turn caused an even greater strain on British truck units. Though a few supplies were brought in through the small port at Sollum, most were brought overland by rail from Alexandria to

Matruh, then by truck all the way forward.<sup>67</sup> Any further advance by large forces depended on a solution to the supply problem.

One decision made before the Bardia battle did allow for saving of supplies and allow for some much needed maintenance. This was the decision to keep 7th Armoured Division out of the Bardia battle and save them for the pursuit of the retreating Italians. This was important for at this time the 7th had just 70 cruiser tanks and 120 light tanks operational. Additionally, O'Connor had directed Major General Mackay of 6th Australian to have one brigade ready to advance with 7th Armoured by the third day of the Bardia battle.<sup>68</sup> With this force at least out of the battle, O'Connor had the ability to keep the pressure on the Italians.

As the Bardia battle continued, 7th Armoured was launched toward Tobruk on 5 January. The 19th Australian Brigade followed the next day and arrived at Tobruk on 7 January, and by 9 January the 30-mile perimeter was completely surrounded.<sup>69</sup> Within this perimeter British intelligence estimated the Italians had 32,000 men with 220 guns, 45 light and 20 medium tanks (Figure 5). Against this force O'Connor decided to again have the Australians supported by 7th RTR, conduct the attack. The 7th Armoured Division was kept out of this battle in anticipation of a pursuit across the bulge of Cyrenaica. O'Connor told Major

General Creagh of 7th Armoured to be ready to move on Mechili as soon as Tobruk fell.<sup>70</sup> With the arrangements for the pursuit in order, plans were made for the assault on Tobruk.

As at Bardia, the infantry would make the initial assault to open the way for exploitation by the 7th RTR's 18 available heavy tanks. The Royal Navy provided support by bombarding Tobruk's inner defenses from midnight till 0200 on 21 January. The RAF also bombed Tobruk and attacked Italian airfields at Benina and Berka.<sup>71</sup> The infantry attacked at 0540 and were able to pass the tanks through before 0700. There was heavy fighting within the perimeter during the 21st with one half of the area captured by nightfall. Fighting continued on the 22nd with the last strongpoint surrendering in the afternoon. Captured within Tobruk were 25,000 prisoners, 208 guns, and 87 tanks. British casualties were just under 400, mostly Australians.<sup>72</sup>

With the fall of Tobruk, the next closest Italian units were defending at Derna 140 kilometers west on the coast with another major force forty miles south of Derna at Mechili. Italian units included the 60th Sabratha Division of two infantry regiments at Derna with their third regiment at Mechili along with two battalions of medium tanks.<sup>73</sup> These Italian units clashed with elements of 13 Corps the night of 24 January. Fourth Armoured Brigade fought the

Italian tanks northeast of Mechili, and 19th Australian Brigade ran into the force defending Derna.

The results of the fight at Mechili were disappointing to O'Connor. Seventh Armoured's losses were minimal, but they had not continued the pursuit of the Italians who escaped to the north into the Jebel Akhdar. Bad weather and bad road conditions contributed to 7th Armoured's failure to pursue along with the condition of their tanks. By this time the division was down to just 50 cruiser and 95 light tanks operational. Additionally, the division was short of fuel.<sup>74</sup> The situation was a little brighter up on the coast by Derna, where the presence of the Australians prevented the tanks from Mechili from linking up with the units in Derna.

At this point it appeared the Italians would at least defend the Jebel Akhdar (Figure 6). Within the Jebel the Italian force included the Sabratha Division, elements of 17th Pavia Division at Cyrene, 27th Brescia Division at Slonta, and the armored brigade under General Babini that had escaped from Mechili. The area itself made up much of the Cyrenecian bulge. It is an area of broken hills rising to 2500 feet and is heavily cultivated. It is marked by farms, plenty of water, and soil that can quickly turn to thick mud during the winter rains. This was not an area for maneuver of a large armor force, and O'Connor wanted to bypass this area by sending 7th Armoured Division south of

the Jebel to the Gulf of Sirte to cut off the escape of the Italian Army in Cyrenaica.<sup>75</sup>

The major constraint on O'Connor for the continuation of the attack was logistics. Seventh Armoured Division's tanks all needed major work, and the corps as a whole was out running the capabilities of FSD 13 at Tmimi on the coast 60 miles west of Tobruk and FSD 12, 10 miles south in the desert. Key to further success would be the establishment of FSD 14 southwest of Mechili to support 7th Armoured. The plan was to have FSD 14 contain 10 days food, water, and fuel along with two refills of ammunition. It would, however, take 12 days to establish this FSD. Though the wait for the supply buildup would be frustrating, it would give 7th Armoured a chance to get more equipment ready for the next battle.<sup>76</sup>

With the supply situation a major factor, O'Connor developed his plan for the advance after the fall of Tobruk. This plan called for 6th Australian Division with two brigades to attack west along the coast toward Benghazi. To the south, 7th Armoured Division with one Australian infantry brigade would attack toward Msus then Soluch, south of Benghazi. If the Italians defended Benghazi, then 7th Armoured would attack from Soluch to take Benghazi from the rear. If the Italians retreated from Benghazi, then 7th Armoured would go to Antelat and cut off their escape.<sup>77</sup>

This plan would require extensive preparation, particularly with the maintenance status of 7th Armoured which was down to 50 operational cruiser tanks. To solve this problem, O'Connor decided to reorganize the division's brigades. Seventh Armoured Brigade would send its best tanks to 4th Armoured Brigade to bolster its strength, leaving the 7th with just one regiment. In turn, 7th Armoured Brigade would be brought up to strength with two regiments of 2nd Armoured Division, just arriving in Egypt. These two regiments, however, would not arrive forward in Libya until 7-9 February. Additionally, FSD 14 would have to be stocked. This would take 12 days. This information was reported to Wavell, who in turn informed London that Benghazi could be expected to fall by the end of February.<sup>78</sup>

With this plan O'Connor continued to push with the Australians, and Derna fell on 30 January. That defeat caused Marshall Graziani, the Italian commander, to decide on 1 February to evacuate Cyrenaica and concentrate his forces at Syrte in Tripolitania.<sup>79</sup> British air reconnaissance reported this on 2 February and the Australians confirmed it on 3 February.<sup>80</sup>

Based on the air reports, O'Connor was convinced on 2 February the Italians were withdrawing. He could not afford to let the Italians escape, but his own situation made pursuit extremely difficult not impossible. The decision to pursue would depend on the answers to three key

questions. First, could he afford to wait for the two new regiments to come forward from Egypt? The answer to this was no, for to wait would allow the Italians to escape. Second, could 7th Armoured be launched in its current condition across 150 miles of unreconnoitered desert? O'Connor's answer to this was, 7th Armoured would go no matter what. Third, could 7th Armoured be maintained? This was probably the most difficult question as the supplies available would be barely enough to sustain the operation. O'Connor decided he had to risk it. By 4 February, 7th Armoured Division would be able to move with full supply vehicles, and a convoy could follow with two days of supplies, water, food, and two refills of ammunition. Based on the current logistics situation, no other supplies would be available before these ran out.<sup>81</sup>

Warning orders for the advance were issued the evening of 2 February, and 7th Armoured Division moved out at dawn on 4 February. Eleventh Hussars led in their usual reconnaissance role followed by 4th Armoured Brigade with 50 cruiser and 95 light tanks. The initial portion of the route was very rough, covered with boulders and the tanks were slowed down considerably. Because of the slow going for the tanks, Major General Creagh, 7th Armoured's commander, decided to form a wheeled combat force that could travel faster than the tanks to follow 11th Hussars. This organization contained the RHA antitank batteries and

infantry from the Support Group. This force linked up with LTC Combe of 11th Hussars at Antelat the morning of 5 February, and by 1230 this unit was observing the main road between Beda Fomm and Sidi Saleh.<sup>82</sup>

As 7th Armoured made its move on 4 February, air reconnaissance reported the Italians were falling back faster than expected. With this information, O'Connor's chief of staff, Brigadier Harding flew to Msus to inform and consult with Major General Creagh. They decided to send 4th Armoured Brigade southwest to Antelat rather than toward Soluch to ensure the cutoff of the Italians. Though this was different than ordered by O'Connor, both knew this was well within O'Connor's intention as the mission was to cut off and destroy the Italian army. On hearing of Creagh's and Harding's decision, O'Connor fully indorsed it.<sup>83</sup>

As 7th Armoured raced toward the coast, 6th Australian Division continued to advance along the coast. They reached Barce on 5 February and were on the outskirts of Benghazi by the evening of the sixth. With 7th Armoured requiring the bulk of the corps transport, the Australian infantry had to walk most of the way.<sup>84</sup> This pressure on the Italian rear caused the Italian commander to keep a good portion of his tanks in the north rather than concentrating them for a breakthrough against Combe's rather small force holding the front of his column in the Beda Fomm area.

At Sidi Saleh, south of Beda Fomm, Combe had the road blocked by 1400 on 5 February, with two companies of the Rifle Brigade securing the antitank guns. Combe's total force at this time was less than 2000 men. These troops faced one attack before 1500 and another at 1700. They held off these assaults, and Combe signaled 4th Armoured Brigade to go to Beda Fomm and strike the flank of the enemy facing him. Fourth Armoured was able to do this by 1800 and this combined action of Combe and 4th Armoured Brigade convinced the Italians that a major force was in the Beda Fomm area. That afternoon and evening many Italians surrendered to Combe's force, forcing him to care for about 5,000 prisoners with his small force.<sup>85</sup>

To increase the pressure on the Italians the remainder of 7th Armoured Division arrived in the Beda Fomm area the night of 5 February with 7th Armoured Brigade arriving in the afternoon of the 6th. Fighting was intense throughout 6 February as the British attacked from the desert flank and the Italians fought to organize a breakout. By this time the Italian commander, General Bergonzoli without benefit of adequate reconnaissance, was convinced he was surrounded by a superior force. With the combined pressure of the Australians to his rear he still did not bring Babini's armoured brigade down from the north for a breakout attempt.<sup>86</sup>

During the night of 6 February, the Italians conducted nine night attacks against Combe to force a breakthrough.<sup>87</sup> These failed but the Italians were able to mass 30 tanks for an attempt at first light on 7 February. These tanks did break through the British infantry, protecting the antitank guns. The infantry, however, remained in their foxholes and fought the Italian infantry once the tanks had passed them. The antitank gunners continued to fire and destroyed all the tanks before they could get through. With the failure of this attempt, large numbers of Italians began to surrender and resistance throughout the Italian force collapsed. Additionally, 4th Armoured Brigade had a large group surrounded further north, and the Australians had continued to push down from Benghazi.<sup>88</sup>

At Beda Fomm, 13 Corps captured 20,000 prisoners, 112 medium tanks, 216 guns, and over 1500 wheeled vehicles.<sup>89</sup> More importantly, O'Connor's force had completely removed any Italian threat to Egypt by destroying the Italian army in Cyrenaica in a two month campaign. During the campaign, O'Connor's corps covered over 500 miles and destroyed an army of 10 divisions. This cost the British 500 killed, 1,373 wounded, and 55 missing, while taking 130,000 Italians prisoner and destroying about 400 tanks, over 800 guns, and about 150 aircraft.<sup>90</sup>

John Strawson in his book "The Battle for North Africa" credits the British success to O'Connor's driving leadership. Throughout the campaign, O'Connor led from the front and was able to be where he was needed on the battlefield. Over large distances he maintained effective control of his force, and most importantly he always insisted on offensive action and never let up the pressure on the Italians.<sup>91</sup> How O'Connor accomplished this, analyzed in terms of modern U.S. Army doctrine, is the subject of the following chapter.

## CHAPTER FOUR

### ANALYSIS OF THE CAMPAIGN

To understand how this campaign relates to the Army's battlefield framework, this chapter analyzes the campaign in three major parts. This analysis concentrates on the battlefield framework of General Wavell, the Commander-in-Chief Middle East, and Lieutenant General O'Connor, commander of the Western Desert Force, later XIII Corps. The three parts are: first is the defense of the Western Desert and the impact on other theaters of operations in the Middle East. Second is Operation "Compass" through the capture of Tobruk. And third is the pursuit and final destruction of the Italian 10th Army at Beda Fomm. The end of this chapter describes the impact of the success in Libya on other theaters of operation in the Middle East.

#### The Battlefield Framework

The Army developed the battlefield framework to help "...commanders relate their forces to one another and to the enemy in time, space, resources and purpose."<sup>1</sup> The framework sets the geographical and operational responsibilities for the commander. It provides him a way to look at and understand the battlefield, and array his

force against the enemy. This framework involves the relationship between area of operations, battle space, and battlefield organization.<sup>2</sup>

An area of operations is assigned by a joint force commander to a subordinate. This area can contain friendly ports or entry area and extend into an enemy support area. Normally an area of operations is defined to a subordinate with forward, lateral, and rear boundaries. The commander assigning an area of operations must ensure the subordinate has the resources to accomplish missions in the area while protecting his force. This means the area must be large enough to employ weapons and systems to full capabilities, but not so large as to put the force at risk. Once assigned an area of operations, a commander organizes it for mission accomplishment.<sup>3</sup>

To organize an area of operations, a commander must understand the concept of battle space. Battle space is not a geographical area assigned by a commander, but is "... a physical volume that expands or contracts in relation to the ability to acquire and engage the enemy."<sup>4</sup> Battle space includes a commander's area of operations, plus the area that includes the combat power of other commanders that can be brought to bear on an enemy. It includes forces or combat power the commander may not control, but the actions of which contribute to the defeat or destruction of the enemy. For example, a corps commander does not control the

theater air campaign plan; however, the results of the air campaign may defeat or hurt enemy forces before entering his area of operations. By taking this into account, the corps commander may adjust his plan or disposition of forces.

Battle space is not so much a defined area as it is a way for the commander to visualize the battlefield and understand the relationship between friendly forces, the terrain, and the enemy. A key aspect of battle space is that commanders can and often do share battle space. This requires coordination to ensure effort is not wasted or duplicated, as "Ownership of assets is less important than application of their effects toward an intended purpose."<sup>5</sup> As an example, an enemy division approaching a corps area of operations would be in the corps and the theater air commander's battle space. The enemy could be destroyed with a coordinated attack capitalizing on the strengths of both commanders.

Once commanders understand and visualize their battle space, they apply the third element of the battlefield framework to organize their area of operations. This battlefield organization includes deep, close, and rear operations. This presents a number of problems for the enemy "Army commanders fight deep, close, and rear actions simultaneously in a manner that appears to the enemy as one continuous operation against him."<sup>6</sup> Deep operations are actions against enemy forces not in contact "Attack of enemy

formations at depth delays, diverts, or reduces enemy combat capabilities and hasten enemy defeat."<sup>7</sup> Deep operations help set the conditions for success in the close battle by allowing the commander to set the time, place, and circumstances for the close battle. Close operations are fought by forces in direct contact with the enemy. This is where decisive victory is achieved. "Only ground forces can dominate the terrain through close operations. No other means are capable of doing this."<sup>8</sup> Rear operations are essential to allowing freedom of action in operations, logistics, and battle command. "Their primary purposes are to sustain the current close and deep fights and to posture the force for future operations."<sup>9</sup> Commanders synchronize all three areas, deep, close, and rear to present the enemy a wide variety of dilemmas that ultimately put him at a disadvantage and cause his defeat or destruction. The remainder of this chapter uses the battlefield framework to describe the relationships between the tactical and operational levels of war in the Middle East theater from June 1940 to February 1941.

#### Defense of the Western Desert

The original instructions to General Wavell on assumption of duty as Commander-in-Chief Middle East in July 1939 clearly defined his area of operations. In peace this area included, Egypt, Sudan, Palestine, and Transjordan, and

Cyprus. In war this area was to encompass British Somaliland, Aden, Iraq, and the shores of the Persian Gulf. He was required to coordinate and consult with the naval and air commanders-in-chief to insure an integrated war effort.<sup>10</sup> It is important to note that at this point during the war the British had not set up a joint command structure with one man responsible to London for the theater. In this early part of the war, each service chief in the theater reported back through service channels to London where overall decisions were made.

#### Wavell's Battle Space

An analysis of General Wavell's battle space shows it extended beyond the boundaries of the countries assigned in the 1939 directive from London. It encompassed a good part of the land mass of North Africa, the Middle East, the sea areas around it, and the airspace above it.

Looking first at the specific countries assigned to him, Wavell had all British land combat forces stationed within those countries available for operations. These included troops in Egypt, the major formation consisting of Lieutenant General O'Connor's Western Desert Force, facing Italian forces in Libya. Egypt also contained the key administrative and logistics units required for the continual build up of forces in the theater, to include anti-aircraft units to protect these key areas.

Included also were the three battalions of British troops in the Sudan along with native irregular forces under Major General Platt. These forces were organized to protect Khartoum which was the center of British military and political control, Atbara which was a key rail junction, and Port Sudan which contained the only repair facilities in the area and the only port.<sup>11</sup> British troops in Kenya were initially under Major General Dickenson and by October under Lieutenant General Cunningham. These forces consisted of two African divisions and a South African brigade group.<sup>12</sup> They had responsibility for defending Kenya, particularly the port of Mombasa, and preparing for offensive action against the Italian port of Kismayu.<sup>13</sup>

Also in this area were forces in British Somaliland under Brigadier Chater. By August 1940, Chater had five infantry battalions with minimal artillery support oriented toward protecting the avenues of approach to Berbera, British Somaliland's only port. There were also about 27,500 troops in Palestine consisting of cavalry, and British and Australian infantry which still required additional training and equipment. These units were tasked with watching over Jewish Arab tensions; one brigade was prepared for possible use in Iraq. To face the Italians in the theater, other forces not under Wavell's command were available.

Wavell shared battle space with Admiral Cunningham who was the Royal Navy's Commander-in-Chief Mediterranean. Cunningham was responsible for naval forces in the Mediterranean with requirements to contain the Italian fleet, destroy convoys enroute to Libya, and protection of allied convoys. He was also responsible for cooperation and coordination with the other services to defeat any enemy in the theater.

Also sharing the battle space was Air Chief Marshall Longmore. His forces consisted of 96 bombers and 76 fighters. As Air Officer Commanding in Chief, Longmore had to neutralize the Italian air force in Libya, the Dodacanese Islands; attack ports and supply points; provide support to naval and ground operations; and provide air defense over the Nile Delta and Suez Canal areas.<sup>14</sup> Additionally, he was responsible for cooperation with Wavell and Cunningham for defeat of enemy forces in the theater.

Wavell would have to use all of his forces in cooperation with the other two services to dominate his battle space and defeat the Italians and any other threats to British interests in the theater.

Included, initially, within in Wavell's battle space were French forces as allies. These included French forces in Algeria which tied down Italian divisions in western Libya.<sup>15</sup> To Wavell's east were French forces in Syria and to the southeast adjacent to his forces were French units in

French Somaliland. To the south were French forces in Chad and equatorial Africa. Additionally, combined war plans called for the French fleet to be responsible for the western Mediterranean, while the Royal Navy took responsibility for the eastern Mediterranean.

Wavell's battle space issues were complicated throughout the theater by the French surrender in June 1940. This had consequences throughout the theater. In Libya, Italian forces were no longer tied down by a threat from Algeria and could be transferred to eastern Libya to face O'Connor's Western Desert Force. To the southeast, there was no longer an ally in Somaliland to help the British face the Italian force in Ethiopia and Italian Somaliland. Directly east, a pro-Vichy administration in Syria was a possible threat to British interests in Palestine.<sup>16</sup> At sea, the Royal Navy now was concerned with the entire Mediterranean to include protection of British shipping coming through the straits of Gibraltar. The impact on the theater was the requirement for most convoys to take the long route around Africa by way of the Cape of Good Hope. The increased time to provide more forces and supplies by this route would then impact on the type and timing of operations in the Middle East theater.<sup>17</sup>

It could be said Wavell's battle space extended back to the United Kingdom itself as much of his supplies and force would come from there. This is important as at the

time the United Kingdom required forces to defend itself from the possibility of German invasion. Any assets sent to the Middle East would cause a corresponding risk at home. Additionally Wavell's battle space concerns extended to India and Australia as key reinforcements in combat units were coming from those countries. Any threat by Japan in that area would again have an effect on the ability to count on support from those areas.

#### Wavell's Battlefield Organization

We can analyze Wavell's theater organization in terms of deep, close, and rear operations, along with the joint commander's organization of the theater of war into specific theaters of operations.

Using these terms, Wavell's deep operation was not directly under his control. Actions to isolate the close battle and to attack enemy forces not in contact were conducted by the Royal Navy and the RAF, based on their requirements to coordinate and cooperate in operations. These included the fleet's attacks on Italian convoys supplying units in Libya and their attacks on the Italian fleet to gain dominance throughout the Mediterranean. This would eliminate Italian naval threats and ensure the freedom to attack Italian land forces from the sea. The RAF also contributed to this deep operation by attacking the Italian air force throughout the theater. This had the effect of

gaining air superiority to allow ground units to act with little to no threat from the air. Additionally, it opened Italian lines of communication to attack from the air. Both of these events assisted decisive action on the ground.

Wavell's close operation can be described as the actions of the subordinate commanders in their theaters of operation. The major commands were: O'Connor's Western Desert Force in western Egypt, Platt's force in Sudan, Cunningham's force in Kenya, and Chater's force in British Somaliland. Throughout the theater, Wavell had to synchronize the actions of these commanders to ensure defeat of Italian forces. Of these, O'Connor faced the largest Italian force in the theater.

With rear operations Wavell had to sustain these wide spread forces. These operations had to supply forces in the various areas of operation, plus build up supplies and infrastructure for future operations. This vital area also required protection. This rear operation included the establishment of a major base in the Nile Delta area with workshops, warehouses, and support units to run ports and logistics transfer terminals. Protection of this base was shared with counter air patrols by the RAF, army anti-aircraft units, and port areas and their approaches by the Royal Navy. This area was the theater's major base and was the center of gravity for the theater.

### O'Connor's Battlefield Framework

Wavell's principle subordinate, Lieutenant General O'Connor commanded the largest force in the theater. His battlefield framework evolved from Wavell's, and they were dependant on each other.

### O'Connor's Area of Operations

Within Wavell's battlefield organization, O'Connor's area of operations was part of Wavell's close operation. Geographically, O'Connor's area comprised the western desert of Egypt and the frontier area of Libya. It was bounded on the north by the Mediterranean Sea, to the east by the base at Mersa Matruh, and extended south to the oasis at Jarabub. To the west it included Italian forces within close proximity to the Egypt/Libya frontier, that is those areas he could effectively patrol. As O'Connor's force was limited to ground assets, he depended on the RAF, Royal Navy, and Wavell's headquarters for intelligence on the Italians in depth. This gave O'Connor a number of important battle space considerations.

### O'Connor's Battle Space

For his defensive operation and planned offensive operation, O'Connor's battle space extended throughout Libya. He was concerned about the dispositions in depth of the Italian 10th Army to his immediate front. Additionally, he was concerned about actions of the Italian 5th Army on

the Algerian border as these forces could reinforce the 10th Army. O'Connor's battle space also included the Mediterranean Sea convoy routes from Italy, which was the responsibility of the Royal Navy. Naval interference with Italian convoys affected the forces to his front. This dependence on the Royal Navy to dominate the Italians in this area illustrates the notion of shared battle space. The Mediterranean was also important to both army commanders as a reinforcement route from the United Kingdom. This vital area was shared by Wavell, O'Connor, and Admiral Cunningham as they were all concerned with the ability of the Royal Navy to dominate the sea flank of the operation.

Actions by the RAF were also a key battle space consideration to General O'Connor. First, the RAF gathered information in depth on the forces facing him. Attacks against the Italian air force by the RAF had positive effects on the ground. These included protection of the Western Desert Force from attack from the air and from attacks against his lines of communication. As this was important to Wavell as well, this also is an example of how commanders shared battle space to dominate the Italians.

O'Connor's battle space also included the key lines of communications back to the main British base in the Nile Delta area. General O'Connor was additionally concerned with sea lines of communication to the United Kingdom as over these lines would come the heavy infantry

tanks of 7th RTR and the additional tank regiments fo 7th Armoured Division. These tanks were needed to play the vital role assigned in "Compass" and in the attacks on Bardia and Tobruk.

#### O'Connor's Battlefield Organization

For the initial defense of Egypt on the opening of the war with Italy in June 1940, O'Connor had the 7th AD operate forward along the frontier. He had to change this set as an Italian attack became likely. Because of maintenance wear on the tanks and a big drain on track life O'Connor decided to husband his armor force as he would need all of them to face an Italian attack. He pulled the tank units back for repair and replaced them with wheeled combat units. These included reconnaissance, truck-mounted infantry, and towed anti-tank guns.<sup>18</sup> This arrangement was also important as there was little prospect of tank reinforcement to the Middle East as long as Britain was under threat of invasion. These considerations provide perspective for O'Connor's deep, close, and rear operations from June 1940 to the start of "Compass" in December.

#### Deep Operations

O'Connor's deep operation was conducted by the Royal Navy and the RAF. These included naval attacks on units close to the shore and attacks on Italian port facilities along the Libyan coast. The RAF contributed with attacks on

Italian airfields and supply columns enroute to the forward areas. Close cooperation with the RAF was insured with the collocation of the local RAF headquarters with Western Desert Force. With this close proximity information on the enemy and requests for information were passed easily.<sup>19</sup>

#### Close Operation

O'Connor's plan to defend against an Italian attack, as described in Chapter Three, was to use his wheeled combat force forward to harass and screen the Italians as they attacked. This force would fight and fall back with a view to having the Italians pursue and overextend themselves. With infantry defending in front of Matruh, O'Connor planned to have the armor brigades of 7th Armoured Division wait to the south in the desert to strike a decisive blow once the Italians were extended.<sup>20</sup>

#### Rear Operations

Essential to success during this period were rear operation considerations. The Western Desert Force base at Matruh had to be defended. In this area O'Connor built up supplies for the defense and for any possible future offensive action. Rear operations were important for the sustainment of the forward units with fuel, ammunition, food, and water. Also from this area the tanks of 7th Armoured Division were repaired and supplies of spare parts from the Delta integrated.<sup>21</sup>

### Analysis of Wavell's Actions In Defense of Egypt

Throughout Wavell's theater of war, actions increased shortly after Italy entered the war. In July, Italian forces began actions along the Sudan border area. To deal with this problem, Wavell shifted the 5th Indian Division to debark at Port Sudan, as Platt's main force was just three British battalions. This division was originally sent for defense of the Iraqi oil fields. Wavell took this decision for two major reasons: first, to strengthen Platt's defense and second, to deal with Iraqi forces if they turned against Britain, the 5th Indian Division was not strong enough by itself. Additionally, a division-size force in Iraq may have provoked a hostile Russian response. This decision had little effect on O'Connor.<sup>22</sup> It did have the positive effect of not siphoning off any forces from O'Connor to bolster Sudan's defense.

As indications reached Wavell of a likely Italian attack into British Somaliland, he ordered O'Connor to send a regiment of artillery and two anti-tank guns to British Somaliland.<sup>23</sup> With this action, Wavell's battlefield organization entered and affected O'Connor's battle space. With the largest force in the theater, he had to be alert to any danger spot of Wavell's lest it draw forces from his Western Desert defense. In turn, Wavell in his battle space had to juggle forces throughout all of his subordinate's

theaters of operation to defend against any Italian attack.

By the beginning of August Churchill was willing to send tanks to Wavell as reinforcements and was willing to risk their transit through Gibraltar. From his view, Wavell needed the tanks, but did not think the possibility of loss to enemy naval or air action in the Mediterranean was worth the risk. He thought the Italians would attack O'Connor, but, based on his estimate of Italian capabilities, believed they would stall before they threatened anything important in Egypt. Additionally, Wavell believed that between O'Connor and defenses back to the Delta he had sufficient force to adequately defend against this attack.<sup>24</sup> Based on these issues, the tanks were not needed until late September. With these considerations the tanks were sent around the Cape of Good Hope and arrived in September, after the expected Italian attack had stalled. They arrived in sufficient time to allow acclimatization and training for O'Connor's December offensive.

#### O'Connor's Defense of Egypt

With General Wavell's reaction to events throughout the theater, his strongest subordinate prepared to defend Egypt from attack.

As stated earlier O'Connor's plan was to allow the Italians to attack and once strung out strike their exposed flank with the 7th AD. One key battle space consideration

for the success of this operation was the actions of the RAF. As the demands on aircraft were so great, the RAF during the screening period before the Italian attack, asked the army to limit its requests for air support to just reconnaissance.<sup>25</sup> At the time the RAF also had to defend the Nile Delta area, the Aden, the Sudan, and the Red Sea areas to keep lines of communication open.<sup>26</sup> Though this cost O'Connor active support just prior to the invasion, it did save wear on aircraft to insure availability for decisive operations. As it turned out, on 9 September the Italian air force increased its activity. With this trigger event, the RAF conducted attacks on Italian airfields, ports, supply, and transport areas. The effect of this gave O'Connor a deep operation when the Italians attacked 13-18 September.

Though the Italians stopped in the Sidi Barrani area, there were a number of effects on the battlefield framework of both Wavell and O'Connor. First, the British lost airfields in western Egypt which cost the RAF fighter escort for bombing raids over Italian ports. In turn, this affected O'Connor's area of operations as the Italians could provide fighter escort to any of their bombers sent to attack his base at Matruh. This concerned Wavell's rear operations; there were insufficient anti-aircraft guns to protect bases in the Delta much less add to O'Connor's protection of Matruh.

This lack of anti-aircraft guns had an impact on both commander's battlefield frameworks, because at the time the theater had less than one half the required guns to protect the area and only had searchlight units at Aden and Malta. Wavell saw this as such a danger that in October he decided to give up space in a convoy for one heavy anti aircraft battery for a battery of searchlights to increase the effectiveness of air defense of the Delta area.<sup>27</sup> This would defend his rear operation from night attacks and could counter the threat of air mining of the Alexandria harbor area. Loss of use of the harbor at Alexandria would affect the battle space of both O'Connor and Wavell. This would cost Wavell the navy's ability to move ground forces throughout the eastern Mediterranean. It would also deny O'Connor naval support in the key areas of bombardment of enemy forces along the coast and let Italy reinforce Libya by sea without interference from British naval forces.

With all of these concerns throughout his battle space as it concerned Egypt, Wavell considered offensive operations even before the Italian's September attack. Once the Italians attacked, he wanted to push them out Egypt. In October, Wavell thought this attack should take the form of a four-or five-day operation. To concentrate force in O'Connor's area of operations, Wavell could stay on the defensive in the rest of the theater. To further dominate the battle space in this area, naval action would prevent

reinforcement from Italy while risks were taken in other areas to provide air support for the army's attack.

#### Impact of the Italian Invasion of Greece

While plans for "Compass" were prepared, the invasion of Greece by Italy adjusted the framework for both commanders. Greece was a major strategic priority for the United Kingdom, and Wavell with his naval and air counterparts were ordered to provide all possible assistance to the Greeks. Initially this took the form of four RAF squadrons and two anti-aircraft batteries to Greece, along with an infantry brigade to protect the port areas on Crete. While this stretched Wavell's use of forces in battlefield organization, it also had an effect on O'Connor. Within O'Connor's battle space his support base was at greater risk with the loss of the RAF squadrons and anti-aircraft artillery. This also meant less close air support during his attack. The ground brigade to Crete deprived Wavell of the opportunity to reinforce O'Connor during the operation.

The Greek dilemma, however, did not deter Wavell from his goal of attacking the Italians in Egypt. On 2 November, Wavell issued his directive for the offensive. He explained that in his analysis the British were better trained and equipped; and though outnumbered, the risks were justifiable.<sup>28</sup> Additionally, he thought this offensive the best way to help the Greeks defend against the Italians.<sup>29</sup>

O'Connor's understanding of the operation was to limit it to four or five days. In his own words, "In effect the operations were to be in the nature of a big raid which, if successful, was to be exploited as far as our meager administrative resources would permit."<sup>30</sup>

#### Wavell's Battlefield Framework for "Compass"

Throughout General Wavell's area of operations, British forces were still on the defensive. In Egypt, the Italians were still on the defensive after halting their offensive at Sidi Barrani. O'Connor was planning and preparing for "Compass," while aggressive patrolling developed information about the Italians to his front. In Sudan and Kenya there was action along the frontiers, but no major operations were underway, though Wavell was considering offensive action there. In the Balkans the Italian attack on Greece had stalled by mid-November; however, Germany was showing interest in that area. The Balkan area was extremely dangerous as it was of strategic interest and had the potential to draw off forces from Wavell's planned action to throw the Italians out of Egypt.

In battle space considerations, the RAF reinforcements to Greece drew off assets to protect the rear area and support O'Connor. Royal Navy operations against the Italian fleet at Taranto and off of Sardinia kept the Italian fleet on the defensive which allowed freedom of

action in the eastern Mediterranean. This had the added effect of protecting force required for Greece. In Greece itself, the Greeks were holding their own on the ground, so major ground combat force was not required. As the Balkans were of increasing strategic interest, Churchill told Wavell he expected Germany to help the Italians in this area. If this happened, Churchill saw the emphasis in the Middle East shifting from Egypt to the Balkans.<sup>31</sup>

Based on this Wavell, organized his battlefield to give as much support as possible to O'Connor for the attack in the Sidi Barrani area. Wavell also used the Greek situation to help O'Connor. As part of the deception effort, Wavell wanted it known that support to Greece was coming from forces in the Western Desert with the benefit of showing the Italians that Britain was incapable of attacking the positions at Sidi Barrani.<sup>32</sup>

In the Sudan area Wavell told Platt he was to recapture Kassala. To do so would require another infantry division, and Wavell told Platt to plan on release of the 4th Indian division in mid December.<sup>33</sup> With this decision, Wavell assumed success by O'Connor and the opportunity to defeat the Italians throughout Africa. Once the Italians were on the run in Libya, the 6th Australian would replace the 4th Indian to continue the attack.

While Wavell's plans took into consideration a strategic and operational view, O'Connor's view was by

necessity more focused and concentrated on his immediate enemy. As O'Connor's consideration was on winning in his area of operations, his battle space was split between things that could help him, such as supporting RAF and Royal Navy actions, and things that could hurt him, such as the draining off of forces and assets to Greece.

#### O'Connor's Area of Operation for "Compass"

O'Connor's area of operation was the Western Desert which contained Italian units in contact in Egypt and the areas of Libya that held Italian forces capable of immediate reinforcement. Wavell's instruction to O'Connor for "Compass" was an operation limited to about five days. This time restriction also defined the area of operations. These instructions also raised the possibility of exploiting success, but no ultimate objective was given.<sup>34</sup> Forces available as described in the previous chapter were 7th Armoured, 4th Indian with 7th RTR attached, and corps troops. A total of 36,000 men facing 80,00 Italians in the immediate area.

#### Battle Space Considerations for "Compass"

To support operations, O'Connor had to thoroughly understand the effects of terrain, joint assets, and his own unit's capabilities. The front facing the Italians at Sidi

Barrani was not continuous. O'Connor did not have the force to cover the entire area and depended on mobile columns to dominate the area between his main force and the Italian positions. Logistically this was important for "Compass" as it allowed a buildup of supplies and it saved track wear for the tanks. Additionally fighting patrols kept the Italians close to their camps.<sup>35</sup> O'Connor also had to show a defensive set so the Italians would not suspect an attack. This was important as both Wavell and O'Connor realized success would depend greatly on taking the Italians by complete surprise.

To assist in this deception Western Desert Force was in defensive positions 60 miles east of the main Italian positions. As there were many spies in Cairo, the troops were not told of the operation lest they give it away while on leave in Cairo. Leave itself was not stopped until three days before the operation, and no special hospital arrangements were made until the operation began. The key buildup of Forward Supply Depots was explained as needed to support the continued defensive pattern.<sup>36</sup>

To help O'Connor dominate his battle space, the Royal Navy would bombard Maktila and the RAF would attack the Italian air force to keep it on the ground. The RAF was also tasked to prevent air observation of the approach march.<sup>37</sup>

### "Compass" Battlefield Organization

Based on the considerations of area of operations and battle space, O'Connor's battlefield organization can be characterized by activities in deep, close, and rear operations. Effectively the deep operation was conducted by the RAF and the Royal Navy. This isolated the battlefield from Italian reinforcement, tied down forces along the coast and along the lines of communication to allow the main attack to proceed without hindrance.

The close operation as described in Chapter Three, had a long approach march with attack positions actually inside the Italian lines. The Fourth Indian Division delivered the main attack by concentrating on one camp at a time. The 7th Armoured Division covered the southwest flank to prevent any attacks into the 4th Indian's exposed flank. Additionally, 7th Armoured had one brigade in reserve ready to exploit to the coast to cut off the retreat of Italian forces and to pursue once the Italians began to fall back. To tie down Italian divisions and to prevent their escape on the coast road, a brigade-sized force under Brigadier Selby attacked along the coast.

The rear operation started before the actual approach march. Due to shortages of transportation units, O'Connor had FSDs 3 and 4 stocked with five days' of supply, as the trucks were needed to move the infantry of the 4th Indian forward.<sup>38</sup>

The actual operation was described in Chapter Three. The results of "Compass" caused changes in both commanders' battlefield framework as the situation became very fluid. This in turn had an impact on the entire theater.

#### Impact of "Compass" Success on Wavell

With his decision to fight the Italians throughout his entire area of operations, Wavell had to compare requirements between Libya and operations in Sudan and Kenya. He had already decided to send the 4th Indian to Platt in the Sudan to complete the destruction of Italian forces in Africa.<sup>39</sup> The main catalyst for the final decision to move the 4th Indian Division was the availability of a convoy in mid-December. Had Wavell not used it, Platt would not have had enough force in time to start his operation. Wavell did not want to miss this opportunity, as he wanted operations to start in Sudan that winter. Wavell later explained his decision to O'Connor in a letter. The reasons he gave O'Connor were: the ships were available, and he wanted to get the division to Sudan in time for the latest date possible to attack the Italians. Wavell could not hold up the ships, and he did not want to miss the opportunity to attack. Additionally, he was under some pressure from Churchill over the situation in Sudan. With all of these considerations, Wavell accepted a delay in the pursuit in Libya while the Australians moved up.<sup>40</sup>

Fortunately, at this time, major forces were not needed for Greece.

This decision to transfer the 4th Indian had only a small effect on the outcome in Libya, but it did have a dramatic effect on the situation in Sudan. There, General Platt had originally planned to attack on 8 February. In mid-January there were indications the Italians were pulling back. With that information and the additional force of 4th Indian, Platt started his attack on 19 January.<sup>41</sup> This began a series of events and battles in Sudan and Kenya that eventually resulted in the surrender of all Italian forces in the East Africa area on 16 March.

From Wavell's point of view this was a good decision at the time in that O'Connor still defeated the Italians at Beda Fomm on 8 February and that Platt defeated the Italians further south just over a month later.

From O'Connor's point of view this decision had a number of effects on his battlefield framework. In considering his area of operations, O'Connor had the Italians on the run, and, rightfully, the only decision was to continue the pursuit with the 7th Armoured Division. This extended his area at least to the Italian forces in Bardia, and to the forces in the Tobruk area that could possibly reinforce the Bardia garrison.

In looking at O'Connor's battle space considerations the loss of the 4th Indian not only cost him a large and

experienced unit, it cost him the supplies required to take care of a unit that was shortly leaving his command. Since supplies were critical, the sooner the 4th Indian left, the better the supply situation would become. O'Connor had the competing demands of using trucks to move the 4th Indian and the thousands of prisoners back to the Delta, move up 6th Australian Division, and to begin the stocking of FSDs to support operations in the Bardia area.<sup>42</sup> Additionally, with such a small force, O'Connor had to keep the pressure up on the Italians to prevent them from regrouping and counterattacking.

With these considerations O'Connor's battlefield organization was based on the 7th Armoured Division's continued pursuit of the Italians into Bardia. Additionally, the 6th Australian's infantry was needed for the attack of the dug in Italians at Bardia. Looking ahead, O'Connor pulled 7th Armoured out of the Bardia line once the 6th Australian was up. The 7th Armoured was held in readiness to continue the pursuit to Tobruk once Bardia was taken. Chapter Three explains how O'Connor took Bardia, then Tobruk, and the pursuit to final victory at Beda Fomm. During this highly successful operation, however, the strategic and operational attention was turning to Greece.

#### Impact of Greece on O'Connor

On the Italian invasion of Greece, Churchill offered help; but General Metaxas, the Greek president, turned this offer down unless the British could offer something on the order of six divisions. Metaxas was concerned that a small British ground force would only cause a German move into the area. As it was, RAF assistance was accepted. As the Greeks put up a superb defense and stopped the Italians, major forces were not sent from Egypt. The cost to O'Connor was loss of RAF and anti-aircraft units that protected his base area.<sup>43</sup> After the initial success of "Compass" at Sidi Barrani, O'Connor was additionally tasked to provide captured Italian trucks for shipment to Greece. The loss of these assets caused a continued strain on his ability to supply his force and continue the pursuit of the Italians across Libya.<sup>44</sup>

With the death of Metaxas on 29 January, the political situation in Greece changed. Greece asked for help and the British foreign secretary and the commanders-in-chief in the Middle East supported this recommendation. At the strategic level, support for Greece was seen as having an effect on Turkey's possible entry into the war against Germany. Turkey could then provide airfields in range of the oil fields supporting the Germans in Rumania.<sup>45</sup>

To provide the force needed in Greece, Wavell had to critically analyze his theater. With O'Connor's victory at Beda Fomm, Egypt was now secured from attack from the west

with a buffer that reached all the way to El Agheila. As to O'Connor's ability to reinforce Greece, the 7th Armoured Division could not go as its tanks needed major repair. Sixth Australian, however, could go as they were now battle tested and not required for the minimal assigned to defend Libya. The New Zealand division was finally up to strength and it could go also. Two armor brigades from the 2nd Armoured Division were also available, as was the Australian Corps headquarters.<sup>46</sup>

Wavell decided to take risk in Libya. First, the decision was made not to pursue the Italians to Tripoli. Secondly, minimal troops were left in Libya, consisting of one armored brigade and the understrength 9th Australian Division.<sup>47</sup>

On 8 February, on the heels of Beda Fomm, the United Kingdom's Defense Committee reviewed its policies in the Middle East. The big question was should the pursuit in Libya continue to Tripoli. This would have impacts on both Wavell and O'Connor. O'Connor's tactical victory gave operational flexibility and opportunity. The advantages of pursuit to Tripoli were: capture of Tripoli would prevent further Italian and German reinforcement to Libya; Italy could only return to Libya by way of a seaborne operation, Tripoli could provide a base for air attacks on Sicily, and finally it was closer to Algeria which could be of advantage if the French situation changed. There were some

disadvantages also. First, going to Tripoli would use the resources needed to oppose the Germans in the Balkans. Second, there was minimal aircraft and anti-aircraft units to defend Tripoli if taken. Third, the navy would have to defend a long supply line to Tripoli with assets needed to protect convoys to Greece. Finally, and most decisive, not helping Greece with a large force had major strategic ramifications. The final decision was that Greece was to have priority, and minimal force would remain to defend in Libya. All other forces were to concentrate in Egypt to prepare for movement to Greece.<sup>48</sup>

O'Connor thought pushing on to Tripoli was possible and desirable. He believed with concentration of naval and air support along with reorganization of his force, an attack to Tripoli would be successful. Key to success was speed of execution and the ability of the RAF and Royal Navy to support the effort.<sup>49</sup>

Wavell's view on this was that going to Tripoli was not possible. He believed the state of the 7th Armoured Division's tanks after the 500-mile advance to Beda Fomm was such that they could not travel the additional 500 miles to Tripoli. Additionally, there was not the transport available to sustain a force to and in Tripoli, nor was the navy or air force able to support this venture. The two Indian divisions in the Sudan were not available. They were already committed to decisive operations, and they could not

be pulled out of action and moved north in enough time to make a difference. Based on this, Wavell's planned force for Greece was the two Australian divisions, the New Zealand division, two armor brigades of 2nd Armoured Division, a Polish brigade, and corps troops. This left Libya with one new understrength Australian division, an Indian motorized brigade, and one brigade group from the 7th Armoured Division. Additionally, this support for Greece required the maximum effort of the RAF and Royal Navy.<sup>50</sup>

While all this juggling of force by Wavell was masterful, the British essentially ran out of forces to pursue their policy in the Middle East and Balkans. The eventual situation can best be described in Wavell's own words.

At the time Egypt was in peril from Rommel's attack into the Western Desert, where the withdrawal of our force for Greece had left us too weak, but was saved by the gallant defence of Tobruk; a dangerous revolt in Iraq was fortunately quelled by our last remaining reserve; and a little later by scraping together the bottom of and apparently empty dish sufficient troops were collected to save Syria from German occupation. All this while the Italian Empire in East Africa was being liquidated by British, South African, Indian, and African troops. Those were busy days in the Middle East."<sup>51</sup>

## CHAPTER FIVE

### CONCLUSIONS

The Army's capstone doctrinal manual FM 100-5 has challenged the Army to think about war in terms of the battlefield framework. It defines the terms, area of operations, battle space, and battlefield organization in detail, but does not describe an operation by applying the terms. The Desert Storm description does not show how the battlefield framework "helps commanders relate their forces to one another and to the enemy."<sup>1</sup> The reader of FM 100-5 must deduce the framework from the description of Desert Storm that concentrates on the operational offensive and simultaneous attack.<sup>2</sup>

Recently, three senior Army leaders discussed the battlefield framework in the professional journal, *Military Review*. General Frederick Franks, the Army's Training and Doctrine Command commander, addressed the framework in general terms; while Lieutenant General Paul Funk, III Corps commander, and Lieutenant General H. Hugh Shelton, XVIII Airborne Corps commander, specifically addressed battle space considerations. Funk and Shelton, however, only discussed battle space considerations within an area of operations.<sup>3</sup> They did not address the effects of forces outside their area of operations and command, but within

their battle space. That is, they did not consider that, "Ownership of assets is less important than application of their effects toward an intended purpose."<sup>4</sup> Additionally, they did not address how battle space considerations affected their battlefield organization.

Chapter One of this study showed that the current discussion does not explain overall how one element of the battlefield framework leads to the other. The recent discussions in professional journals do not clearly describe the link between the tactical and operational levels of war. This discussion also does not describe how each level of command must consider the other's framework.

Additionally, Chapter One explained that FM 100-5 does not describe an operation using battlefield framework terms. FM 100-5 does not explain how a commander's battle space impacts on battlefield organization. The Funk and Shelton articles appeared to concentrate their descriptions and explanations of battle space on their area of operations. They did not clearly explain how battle space considerations were used to develop battlefield organization. This is important as key to an understanding of battle space is the concept of shared battle space. Both corps commanders did not address the concept at the tactical or operational level of the combined contributions of other commanders within the shared battle space and how the

effects of another commander's action against an enemy should be considered before battle field organization.

After an overview of the strategic situation in Chapter Two, Chapter Three described the tactical operation while Chapter Four explained how the battlefield framework applied to the campaign. It explained Wavell's and O'Connor's actions in terms of area of operations, battle space, and battlefield organization. There is, however, a link between the frameworks of the operational and tactical commanders.

In this analysis of actions leading to Beda Fomm the framework for both the operational and tactical commanders was explained in detail. The link between the operational and tactical commanders was key as General Wavell's battlefield framework set the conditions for O'Connor's success.

Wavell's area of operations was designated by the 1939 directive appointing him Commander in Chief Middle East. The theater was important for a number of strategic reasons. These included; control of the Suez Canal, protection of approaches to the Iraqi oil fields, the Nile Delta base area for the organization of forces arriving from India and Australia, and protection of East Africa. Also, by June 1941, this was the only theater that gave the United Kingdom the chance to take offensive action against the Axis.

Within this large area of operations, Wavell's battle space considerations were complex. Included were the initial coordination with the French, followed by considerations after their collapse. Cooperation with his RAF and Royal Navy counterparts to concentrate and effectively coordinate actions also affected battle space considerations. Wavell also had to be aware of areas far removed from his control. For example, his requirements for tank reinforcements would cause a corresponding risk of invasion in the United Kingdom. He also had to look east, as major combat forces had to travel to his theater from India and Australia. Any threat by Japan in the Far East could have a corresponding affect on the size of force the government allocated.

The operational to tactical battlefield framework link worked well between Wavell and O'Connor. Wavell's area of operation was assigned by London, and he was allocated forces to command within the area. The principal forces were O'Connor's Western Desert Force, Platt's force in Sudan, and Cunningham's force in Kenya. Within the theater, O'Connor was assigned the largest force within Wavell's battlefield organization. In using elements of the battlefield framework to analyze Wavell's organization battle space considerations come to the fore. Wavell's center of gravity for the entire theater was the base in Egypt. This had to be protected and its most immediate

threat was from the large Italian ground force in Libya. This threat caused Wavell to assign the largest and most mobile force to O'Connor.

With these considerations, Wavell's battlefield organization reflected concern for area of operations priorities and battle space conditions. To protect his base and the approaches to Iraq, he placed his largest force and his only armored division under O'Connor in the Western Desert. O'Connor faced the Italian force that could directly threaten these vital areas. Wavell also placed infantry forces in Kenya and Sudan to tie down the large Italian forces in Ethiopia and Italian Somaliland. In this area Wavell required another infantry division to take offensive action. O'Connor's initial success during "Compass" allowed Wavell to transfer a division and adjust the battlefield organization to defeat the Italians in Libya and East Africa. O'Connor's success also allowed Wavell, in February 1941, to adjust his organization by shifting forces when Greece became the priority in the Middle East.

Wavell's actions throughout his battlefield framework in turn set the conditions for O'Connor's framework. General O'Connor's area of operations was assigned by Wavell. It was a large area, and Wavell allocated O'Connor the force required initially for the defense of Egypt followed by enough force to start offensive action. The area of operation moved west as O'Connor's

offensive racked up a series of successes from Sidi Barrani to Bardia, Tobruk, and Beda Fomm as Wavell approved each extension of the pursuit.

General O'Connor's battle space considerations in viewing his area of operations were much the same as Wavell's. O'Connor had to coordinate and depend upon support from air and naval forces for his attack. He also was concerned about convoys transporting troops and supplies from the United Kingdom, India, and Australia. Areas outside of the Western Desert Forces' area of operations entered the battle space once "Compass" began. First, there was action in Sudan which cost him the transfer of 4th Indian Division. Later, Wavell's strategic requirement to support Greece lost him the ability to exploit captured Italian trucks and material. Eventually, the Greek venture prevented continuation of the attack toward Tripoli and stripped the force from Libya for action in Greece.

Within the limits and opportunities presented in his area of operations by battle space considerations, O'Connor's battlefield organization reflected decisive offensive operations. He used the heavy tanks of the 7th RTR, sent out by convoy from the United Kingdom, with the 4th Indian Division and later the 6th Australian Division as his close assault force. The 7th Armoured Division protected the main infantry attack and more importantly was

the primary pursuit force. This organization throughout the operation set the conditions for the final rapid advance by the 7th Armoured to cut off and block the escaping Italian army at Beda Fomm. In addition, O'Connor had to sustain the 500-mile advance from Egypt deep into Libya. To insure success, the Field Supply Depot system was implemented. This logistical effort was essential as the rapid pace and ability to prevent the Italians from escaping depended as much on keeping units supplied as it did on actual combat action.

Wavell's operational framework in turn had positive effects on O'Connor's operations. Wavell's plan to attack the Italian's in Egypt caused him to provide support to O'Connor as the main effort in the theater. This took the form of Wavell orchestrating battle space considerations in O'Connor's area of operations. One major issue was the convoy of tanks sent from the United Kingdom in August 1940. Churchill was convinced Great Britain needed to risk movement of the tanks through the Mediterranean to be in Egypt in time for the expected Italian attack. On the surface it would appear O'Connor would welcome this much needed addition to his combat power. Wavell, however, believed, as did O'Connor that sufficient combat power was on hand to defend the western Egypt area. The tanks from U.K. were required for offensive operations later. The loss of these tanks to naval action in the Mediterranean would

postpone any offensive action against the Italians. Subsequently, the tanks arrived after the Italian invasion of Egypt, but in enough time to train for the decisive action of "Compass."

Another instance of shared battle space between Wavell and O'Connor was the issue of air support. As there was no joint structure in effect, Wavell had to coordinate for RAF support for the defense of Egypt. The RAF had to scale back its support of ground forces to just reconnaissance flights until just prior to the Italian invasion. This was key, as it allowed the RAF to save its aircraft for decisive operations when the Italians actually invaded. An additional battle space consideration had a positive effect on O'Connor. When additional force was required in the East Africa area, Wavell did not siphon off major forces from Egypt. He diverted the 5th Indian Division from its original destination of Iraq to the Horn of Africa area.

There were instances where the link between the battlefield frameworks of the operational and tactical commanders did not work well. The most obvious instance of this was the transfer of the 4th Indian Division after the initial phase of "Compass." From the operational point of view, Wavell did not want to tell O'Connor ahead of time of his decision to send the 4th Indian south as he did not want to put a limitation on O'Connor's planning. While the move

of the 4th Indian insured an operational success for Wavell, it did cost O'Connor in his area of operations and in battlefield organization. It cost O'Connor a delay while the 4th Indian moved back and the 6th Australian moved up. Though the 7th Armoured continued the pursuit to Bardia, this division did not have the infantry strength to assault while the Italians were still organizing their defense. Had the 4th Indian been able to also pursue to Bardia, a hasty attack may have taken the area before a defense was organized. Had this been done, there may have been less casualties due to a hasty attack, rather than the casualties incurred in the deliberate attack on Bardia in January by the 6th Australian Division.

Had O'Connor known ahead of time that the 4th Indian would move immediately after the five-day operation, he may have organized the use of his forces differently. For example, he could have positioned or given a different mission to 16th British Infantry Brigade to have them ready to provide infantry support to the 7th Armoured's pursuit. At the operational level, the move of the 4th Indian had little impact on action in the Western Desert, but, as stated earlier, had a big payoff in Sudan with the eventual destruction of the Italian forces there in March 1941.

The link between operational and tactical levels did not work well with support of the Greek operation. Wavell considered support for Greece in both strategic and

operational terms. At the strategic level, Britain had promised support for Greece, and to not provide it would send the wrong message to potential allies. It was important to the United Kingdom that Turkey and the United States saw an ally that could be trusted. Wavell also realized the success at Beda Fomm removed the threat to his base in Egypt and that it would be some time before the Italians or Germans could organize forces for a counterattack. With this in mind, he cut the force in Libya to the bare minimum for defense and prepared a corps size force for Greece. O'Connor on the other hand, believed an opportunity to completely remove the Italians from the North African coast was lost. By continuing the attack, O'Connor believed the German's would not reinforce their allies and the Axis could only attack North Africa by way of a costly and difficult invasion from the sea.

In this consideration of the link between the frameworks of the operational and tactical example, it is important to understand that both commanders must understand each other's battlefield framework considerations. Once considered, then a decision can be made based on a broader view of the implications.

Once operational and tactical commanders understand and consider each other's framework, their efforts can be synchronized for more efficient and effective use of combat power. Wavell's understanding of O'Connor's framework had a

positive effect in a number of areas. In battle space considerations, Wavell's coordination for RAF and Royal Navy support prevented Italian naval and air interference with O'Connor's operations. One very important aspect of this was RAF protection over O'Connor's area of operations. This allowed him to continually push forward and stock field supply depots. As the pace and tempo of the attack across Libya was in large measure determined by the ability to support it, the FSDs were vital. The RAF support allowed O'Connor to move the FSDs forward without fear of Italian air attack.

On the other hand, failure to take into consideration a subordinate's unique framework requirements can cause problems. As logistics was the big factor in the pace of operations across Libya, trucks were at a premium. O'Connor planned to use all the operational captured Italian trucks to move supplies and infantry. Wavell, however, with his requirement to support Greece, required the captured trucks for the Greek Army. This cost O'Connor in two important areas. First, he sent the 7th Armoured on its move to Beda Fomm with just two days of supply. Secondly, the 6th Australian Division had to walk the bulk of its infantry 200 miles along the coast of Libya. Had more trucks been available the tempo of the infantry would have increased. This may have caused an earlier destruction of

the Italian 10th Army and created the opportunity to continue the pursuit to Tripoli.

O'Connor's understanding of Wavell's responsibilities created opportunities at the operational level. During the defense of Egypt, O'Connor knew that protection of Wavell's base in the Delta was vital. Based on that, his plan for defending in his area of operations was to allow the Italians to overextend themselves and then to attack in the flank with the 7th AD to cut off and destroy the Italian force. A decisive victory at this time could have created the conditions to pursue the Italians back into Libya.

The largest impact of O'Connor's actions on Wavell was the initial success at Sidi Barrani which eliminated the immediate threat to Wavell's center of gravity and created the conditions to move the 4th Indian for decisive operations in Sudan. Secondly, the success at Beda Fomm allowed Wavell to support the strategic directive of providing a large force to Greece.

This analysis of the defeat of the Italian 10th Army at Beda Fomm illustrates how all three battlefield framework elements fit together to fill the gap in explaining the concept. Further, this study explains as well the link between the operational and tactical levels of war and demonstrates why commanders at each level must consider the other's framework. As an example, General O'Connor was so

focused on his area of operations that he had no idea Wavell would send the 4th Indian Division to Sudan. Wavell, on the other hand, knew that taking the 4th Indian would only disrupt O'Connor's operation for a short period while the 6th Australian Division moved up. O'Connor's success, though, gave Wavell the opportunity to move the 4th Indian for decisive action in Sudan. With this decision, Wavell was able to defeat the major Italian forces in Africa nearly simultaneously, rather than taking longer to accomplish this sequentially.

O'Connor's success at Beda Fomm also allowed Wavell to shift forces to Greece in February 1941 when that area took strategic and operational priority. This in turn affected the size of forces left in Libya. Wavell decided to take risk in Libya by leaving a small force to screen the remaining Italians. These actions by Wavell made the most of the limited forces available in North Africa, as he believed the German's would not attack before mid April.<sup>5</sup> In retrospect this set up the forces in Libya to attack by Rommel's German led forces on 31 March, 1941.

Based on this study, leaders of today's Army can learn a number of lessons. One is that operational commanders must keep their tactical commanders informed on the possibility of future missions that may affect how they apply the battlefield framework. This is important as subordinates can plan for support of the operational

commanders objective in planning a tactical mission. The tactical commander must clearly understand how his efforts impact on operational goals. Conversely, operational commanders must have a clear understanding of how the tactical commander is accomplishing missions assigned. This is important as the operational commander should have a good idea of how his decisions will affect the ability of the tactical commander to accomplish assigned missions.

This is an important link between the operational and tactical commander. Actions by the tactical commander can create opportunities for the operational commander. The operational commander must clearly appreciate the tactical framework. This is so the operational commander can give timely direction and support at the right time and place. This awareness also allows the operational commander to fully comprehend the impact of his decisions on the ability of the tactical commander to achieve desired results.

This work has also described how commanders must take into account actions and forces outside their area of operations, but within their battle space. Actions within a commander's battle space can and do affect battlefield organization. Additionally, actions by other commanders within the battle space can affect the tempo of operations within an area of operations. All of these lessons are as applicable today as they were in 1940-1941.

This study also suggests areas of additional research. These include:

1. A study of the battlefield framework in detail at the division and below levels.

2. An analysis of current joint operations and contingency plans with the battlefield framework to insure all available forces in the area of operations and battle space are organized efficiently.

3. An analysis of the battlefield framework during the period of March through June 1941, when British actions in the Middle East included combat actions in Iraq, Libya and Egypt, Greece and Crete.

The Army developed the battlefield framework as an important tool for commanders to think about warfighting. Failure to understand the framework and those of adjacent commanders can result in loss of opportunity and failure to use all of the forces available. On the other hand, a commander with a clear understanding of his own battlefield framework along with that of his higher commander's can concentrate combat power for decisive operations.

ENDNOTES

Chapter 1

<sup>1</sup>U.S. Army, FM 100-5, Operations (Washington DC: Department of the Army, 1993), 6-2.

<sup>2</sup>Ibid., 6-2.

<sup>3</sup>Ibid., 6-12

<sup>4</sup>Ibid., 6-12.

<sup>5</sup>Ibid., 6-12.

<sup>6</sup>Ibid., 6-13.

<sup>7</sup>Gordon R. Sullivan, "Doctrine: A Guide to the Future," Military Review 2 (February 1992): 3-9. Frederick M. Franks, Jr., "Full-Dimensional Operations: A Doctrine for an Era of Change," Military Review 12 (December, 1993): 5-10.

<sup>8</sup>Franks, "Full Dimensional Operations," 8.

<sup>9</sup>Ibid., 9.

<sup>10</sup>Paul E. Funk, "Battle Space: A Commander's Tool on the Future Battlefield," Military Review 12 (December, 1993): 36.

<sup>11</sup>Ibid., 36-47.

<sup>12</sup>H. Hugh Shelton and Kevin C.M. Benson, "Depth and Simultaneity," Military Review 12 (December, 1993): 59.

<sup>13</sup>Ibid., 60.

<sup>14</sup>J. F. C. Fuller Papers, Rutgers University, New Brunswick, NJ, 1918, reprinted in J.F.C. Fuller and the Tank, a doctoral dissertation by Robert Edward Klien, University of Chicago, 1983.

<sup>15</sup>J.F.C. Fuller, The Reformation of War, (New York, Dutton, 1923) 120 on gas warfare, 154-158 on the tank, and 148-150 on the airplane.

<sup>16</sup>Ibid., 232, 245.

<sup>17</sup>Ibid., 118.

<sup>18</sup>Jay Lu vaas, The Education of an Army, (London, Cassell and Company Ltd, 1964) 348-349.

<sup>19</sup>Great Britain, War Office, Field Service Regulations, Volume II, (London, His Majesty's Stationery Office, 1924), 2. Great Britain, War Office, Field Service Regulations, Volume II: Operations (1929), (London, His Majesty's Stationery Office, 1929), 7.

<sup>20</sup>Harold R. Winton, To Change an Army, (Lawrence, KS: University Press of Kansas, 1988) 80, 113, 116-118, 131, 143.

<sup>21</sup>Brian Bond, Liddell Hart: A Study of His Military Thought (New Brunswick, NJ, Rutgers University Press, 1977) 25-26.

<sup>22</sup>Liddell Hart, The Liddell Hart Memoirs, Volume I, (New York, 1965) 43-45.

<sup>23</sup>Ibid., 48.

<sup>24</sup>Robert H. Larson, The British Army and the Theory of Armored Warfare, 1918-1940, (Newark: University of Delaware Press, 1984), 214-215.

<sup>25</sup>John J.T. Sweet, Iron Arm: The Mechanization of Mussolini's Army, 1920-1930, (Westport, CT: Greenwood Press, 1980), 4.

<sup>26</sup>Ibid., 56.

<sup>27</sup>Ibid., 147.

<sup>28</sup>Ibid., 60.

<sup>29</sup>Ibid., 86.

<sup>30</sup>Ibid., 142.

## Chapter 2

<sup>1</sup>J.R.M. Butler, Grand Strategy: Volume II, September 1939-June 1941. History of the Second World War (London: Her Majesty's Stationery Office, 1957) 209-210.

<sup>2</sup>Ibid., 212.

<sup>3</sup>Winston S. Churchill, Their Finest Hour, (Cambridge: Houghton Mifflin Company, 1949), 236-237.

<sup>4</sup>Butler, 239.

<sup>5</sup>E. L. Woodward, British Foreign Policy in the Second World War. The Second World War (London, Her Majesty's Stationery Office, 1962), 166, 167.

<sup>6</sup>Butler, 336.

<sup>7</sup>Churchill, 435.

<sup>8</sup>Butler, 306.

<sup>9</sup>Churchill, 433.

<sup>10</sup>Butler, 365.

<sup>11</sup>I.S.O Playfair, The Mediterranean and the Middle East: Volume I, The early Successes against Italy (to May 1941). History of the Second World War (London, Her Majesty's Stationery Office, 1954), 229.

<sup>12</sup>Playfair, 295, from Ciano's Diplomatic Papers, 303, 314.

<sup>13</sup>Elizabeth Wiskemann, The Rome-Berlin Axis, (London: Oxford University Press, 1949) 213.

<sup>14</sup>Denis Mack Smith, Mussolini's Roman Empire, (New York: The Viking Press, 1976) 225, 226.

<sup>15</sup>Ibid., 224.

<sup>16</sup>Denis Mack Smith, Mussolini, (New York, Alfred A. Knopf, Inc. 1982), 251.

<sup>17</sup>Elizabeth Wiskemann, The Rome - Berlin Axis ( New York and London: Oxford University Press, 1949), 224.

<sup>18</sup>Playfair, 166.

<sup>19</sup>Mack Smith, Mussolini, 254.

<sup>20</sup>Luigi Villari, Italian Foreign Policy under Mussolini, (New York: The Devin-Adair Company, 1956), 272,273.

<sup>21</sup>Butler, 269,270.

<sup>22</sup>Ibid., 286.

<sup>23</sup>B.H. Liddell Hart, The Other Side of the Hill, (London: Cassell and Company, Ltd. 1951), 222.

<sup>24</sup>Ibid., 177,178.

<sup>25</sup>Wiskehamm, 227.

<sup>26</sup>Liddell Hart, The Other Side of the Hill, 233.

### Chapter 3

<sup>1</sup>John Connell, Wavell: Scholar and Soldier, (New York: Harcourt, Brace and World 1964), 199,209

<sup>2</sup>Ibid., 110.

<sup>3</sup>R.J. Collins, Lord Wavell. A Military Biography, (London: Hodder and Stoughton, 1948), 80.

<sup>4</sup>Ibid., 83.

<sup>5</sup>Ibid., 29.

<sup>6</sup>Connell, 126.

<sup>7</sup>A.P. Wavell, Allenby. A Study in Greatness, (New York: Oxford University Press, 1941), p.217.

<sup>8</sup>Collins, 129.

<sup>9</sup>A.P. Wavell, "The Army and the Prophets," The Journal of the Royal United Services Institution 500 (November 1930): 665.

<sup>10</sup>Ibid., 674.

<sup>11</sup>Collins, 143,144.

<sup>12</sup>A.P. Wavell, "The Training of the Army for War," The Journal of the Royal United Services Institute 510 (May 1933): 267.

- <sup>13</sup>Ibid., 270.
- <sup>14</sup>John Baynes, The Forgotten Victor: General Sir Richard O'Connor, Kt, GCB, DSO, MC (London: Brassey's, 1989) 15, 17, 20.
- <sup>15</sup>C. T. Atkinson, The Seventh Division, 1914-1918 (London: John Murray, 1927), 513.
- <sup>16</sup>Baynes, 21-23.
- <sup>17</sup>Ibid., 23.
- <sup>18</sup>Atkinson, 464.
- <sup>19</sup>Baynes, 28, 30, 34, 35, 37, 40, and 44.
- <sup>20</sup>Ibid., 56, 57.
- <sup>21</sup>Ibid., 64, 65.
- <sup>22</sup>George Forty, The First Victory: General O'Connor's Desert Triumph, Dec 1940-Feb 1941 (Tunbridge Wells, Kent, U.K.: The Nutshell Publishing Company, Ltd., 1990), 106. Barrie Pitt, The Crucible of War. Western Desert 1941 (London: Jonathan Cape Ltd., 1980), 86,87. Kenneth Macksey, Beda Fomm: The Classic Victory (New York: Ballantine Books, Inc., 1971), 56,57.
- <sup>23</sup>I. S. O. Playfair, , G. M. S. Stitt, C. J. C. Molony, and S.E. Toomer, The Mediterranean and the Middle East, Volume I: The Early Successes Against Italy (to May 1941), History of the Second World War (London: Her Majesty's Stationery Office, 1954), 95,471,472. Forty, 48,49. Macksey, 56,59.
- <sup>24</sup>Playfair, 102-106. Forty 45-47,87.
- <sup>25</sup>Winston S. Churchill, Their Finest Hour (Cambridge, MA: Houghton Mifflin Company, 1949), 449. Playfair 235-238.
- <sup>26</sup>Forty, 38,40.
- <sup>27</sup>John J. T. Sweet, Iron Arm: The Mechanization of Mussolini's Army, 1920 - 1940, (Westport, CT: Greenwood Press, 1980), 196. Forty 37,38. Pitt, 445.
- <sup>28</sup>Forty, 29,30.
- <sup>29</sup>Ibid., 26,27,28.

<sup>30</sup>Correlli Barnett, The Desert Generals, 2nd Edition. (Bloomington: Indiana University Press, 1982), 23,24. Playfair, 115.

<sup>31</sup>Pitt, 32.

<sup>32</sup>Ibid., 33,39.

<sup>33</sup>Playfair, 205.

<sup>34</sup>F.H. Hinsley, British Intelligence in the Second World War, Volume 1 (London: Her Majesty's Stationery Office, 1979), 215,216.

<sup>35</sup>Playfair, 208.

<sup>36</sup>Pitt, 53. Playfair, 211.

<sup>37</sup>Pitt, 69.

<sup>38</sup>Playfair, 259.

<sup>39</sup>Ibid., 260,261.

<sup>40</sup>Ibid., 261,262,264.

<sup>41</sup>Ibid., 262,263.

<sup>42</sup>Pitt, 90.

<sup>43</sup>Connell, 289.

<sup>44</sup>Barnett, 33,34.

<sup>45</sup>Ibid., 35.

<sup>46</sup>Pitt, 96.

<sup>47</sup>Baynes, 97.

<sup>48</sup>Playfair, 267,268.

<sup>49</sup>Ibid., 268.

<sup>50</sup>Pitt, 111.

<sup>51</sup>Playfair, 269. Pitt, 113.

<sup>52</sup>Pitt, 118,119.

<sup>53</sup>Ibid., 120.

- 54 Ibid., 117, 118.
- 55 Barnett, 40, 41.
- 56 Pitt, 125. Playfair, 282.
- 57 Playfair, 278.
- 58 Pitt, 126.
- 59 Barnett, 42, 43.
- 60 Pitt, 128, 129. Playfair, 278.
- 61 John Strawson, The Battle for North Africa, (New York: Charles Scribner's Sons, 1969), 36, 37.
- 62 Playfair, 284.
- 63 Ibid., 286.
- 64 Pitt, 137. Playfair, 286.
- 65 Pitt, 140.
- 66 Strawson, 37. Playfair, 287.
- 67 Pitt, 143.
- 68 Barnett, 44.
- 69 Playfair, 287. Pitt, 145.
- 70 Barnett, 49.
- 71 Playfair, 291.
- 72 Ibid., 293.
- 73 Pitt, 160. Barnett, 51.
- 74 Pitt, 161. Barnett, 52.
- 75 Barnett, 51. Playfair, 351.
- 76 Pitt, 165.
- 77 Playfair, 355.
- 78 Playfair, 355, 356. Pitt, 166.

- <sup>79</sup>Barnett, 53.  
<sup>80</sup>Pitt, 166.  
<sup>81</sup>Playfair, 356.  
<sup>82</sup>Pitt, 169.  
<sup>83</sup>Barnett, 56.  
<sup>84</sup>Pitt, 172. Playfair, 359.  
<sup>85</sup>Strawson, 38. Pitt, 173,174.  
<sup>86</sup>Pitt, 177,178.  
<sup>87</sup>Strawson, 39.  
<sup>88</sup>Playfair, 361.  
<sup>89</sup>Barnett, 59.  
<sup>90</sup>Strawson, 39. Playfair, 362.  
<sup>91</sup>Strawson, 40.

#### Chapter 4

<sup>1</sup>U.S. Army. Field Manual 100-5: Operations,  
(Washington: Government Printing Office, 1993), 6-11.

<sup>2</sup>Ibid., p.6-12.

<sup>3</sup>Ibid., p.6-12.

<sup>4</sup>Ibid., p.6-12.

<sup>5</sup>Ibid., p.1-13.

<sup>6</sup>Ibid., p. 6-13.

<sup>7</sup>Ibid., p. 6-13.

<sup>8</sup>Ibid. p.6-14.

<sup>9</sup>Ibid., p.6-15.

<sup>10</sup>I. S. O. Playfair, G. M. S. Stitt, C. J. C. Molony, and S. E. Toomer. The Mediterranean and the Middle East Volume I: The Early Successes Against Italy (to May 1941). History of the Second World War (London: Her

Majesty's Stationery Office, 1954), Appendix I, "Army Council Instructions to the General Officer Commanding-in-Chief in the Middle East," 457-459.

<sup>11</sup>Ibid., 168.

<sup>12</sup>Ibid., 181.

<sup>13</sup>Ibid., 392,393.

<sup>14</sup>Ibid., 95.

<sup>15</sup>Barrie Pitt, The Crucible of War. Western Desert 1941, (London: Jonathan Cape Ltd., 1980) 5.

<sup>16</sup>John Connell, Wavell, Scholar and Soldier, (New York: Harcourt, Brace and World, Inc., 1964), 240,241.

<sup>17</sup>Playfair, 244,245.

<sup>18</sup>Correlli Barnett, The Desert Generals, 2nd Edition (Bloomington: Indiana University Press, 1982), 28.

<sup>19</sup>C.N. Barclay, Against Great Odds, (London: Sifton Praed and Company, Ltd, 1955), 22.

<sup>20</sup>Ibid., 16,17.

<sup>21</sup>Playfair, 187.

<sup>22</sup>Connell, 251. Playfair, 171.

<sup>23</sup>pitt, 59.

<sup>24</sup>Connell, 270.

<sup>25</sup>Playfair, 206.

<sup>26</sup>Ibid., 205.

<sup>27</sup>Ibid., 213.

<sup>28</sup>Connell, 278.

<sup>29</sup>Ibid., 280.

<sup>30</sup>Barclay, 17.

<sup>31</sup>Connell, 286.

<sup>32</sup>Ibid., 284.

- <sup>33</sup>Ibid., 287.
- <sup>34</sup>Ibid., 286.
- <sup>35</sup>Barclay, 21.
- <sup>36</sup>Ibid., 24.
- <sup>37</sup>Ibid., 26.
- <sup>38</sup>Ibid., 25,26.
- <sup>39</sup>Connell, 286.
- <sup>40</sup>Barclay, 38,39.
- <sup>41</sup>playfair, 399,400.
- <sup>42</sup>Barclay, 36-38.
- <sup>43</sup>Ibid., 26.
- <sup>44</sup>Ibid., 53.
- <sup>45</sup>pitt,. 215.Pitt,. 215.
- <sup>46</sup>Michael Dewar, "Wilson" in Churchill's General's, ed. John Keegan, (New York: Grove Weidenfeld, 1991), 170.
- <sup>47</sup>pitt, 218.
- <sup>48</sup>playfair, 372.
- <sup>49</sup>Barclay,73,74.
- <sup>50</sup>playfair,375, 376, 385.
- <sup>51</sup>A. H. Wavell, "The British Expedition to Greece,1941," The Army Quarterly 2 (January, 1950), 184.

#### Chapter 5

<sup>1</sup>U.S. Army, FM 100-5, Operations (Washington: Department of the Army, 1993), p.6-11.

<sup>2</sup>Ibid., p.6-16 - 6-18.

<sup>3</sup>Paul E. Funk, "Battle Space: A Commander's Tool on the Future Battlefield," Military Review 12 (December,1993) and H. Hugh Shelton and Kevin C.M. Benson, "Depth and Simultaneity," Military Review 12 (December, 1993).

<sup>4</sup>FM 100-5, p.6-13.

<sup>5</sup>Correlli Barnett, The Desert Generals, 2nd Edition.  
(Bloomington: Indiana University Press, 1982), 65.

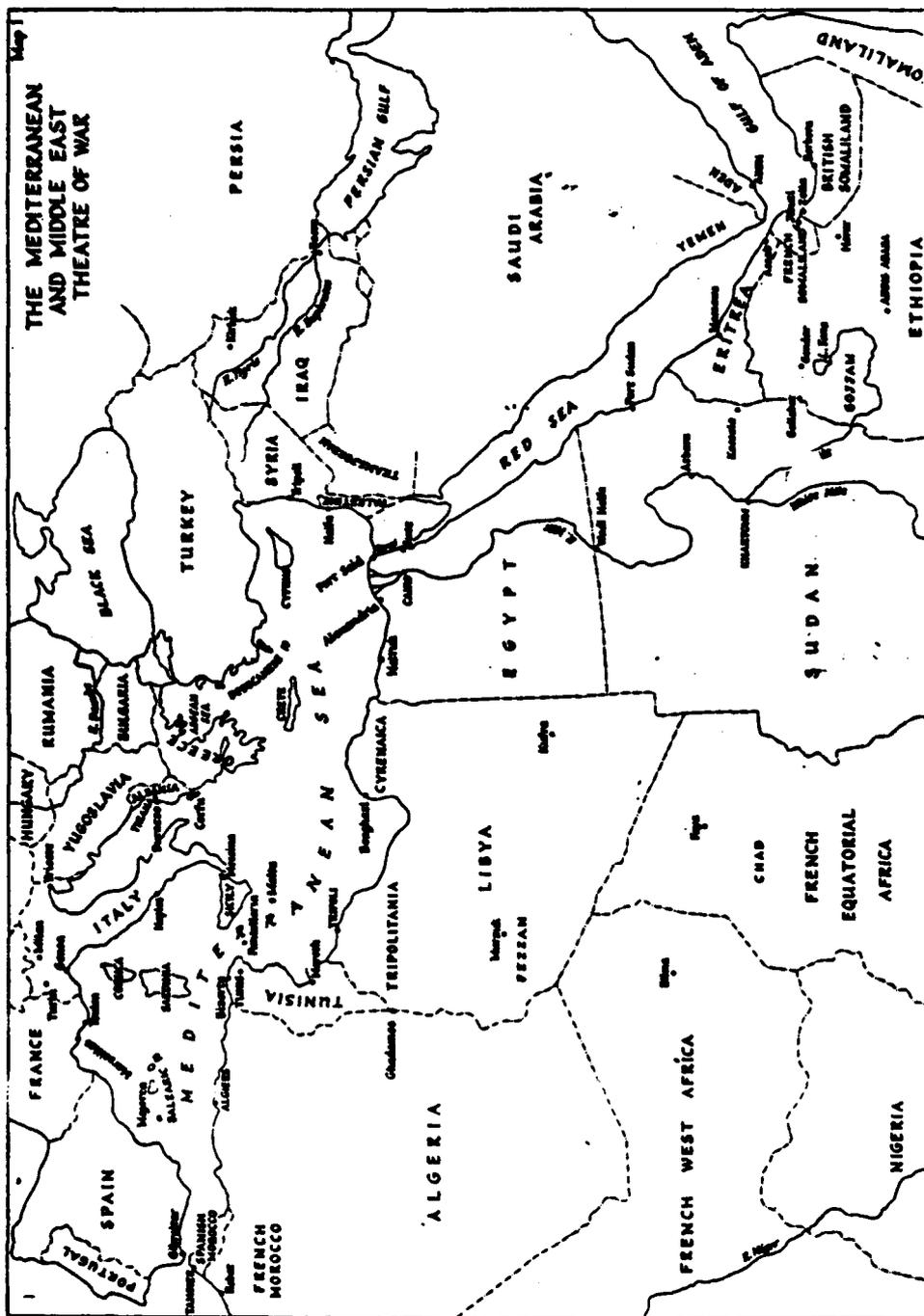


Figure 1: The Middle East Theater of War. Source: I. S. O. Playfair, The Mediterranean and the Middle East: Volume I, The Early Successes against Italy (to May 1941). History of the Second World War (London, Her Majesty's Stationery Office, 1954), 1.

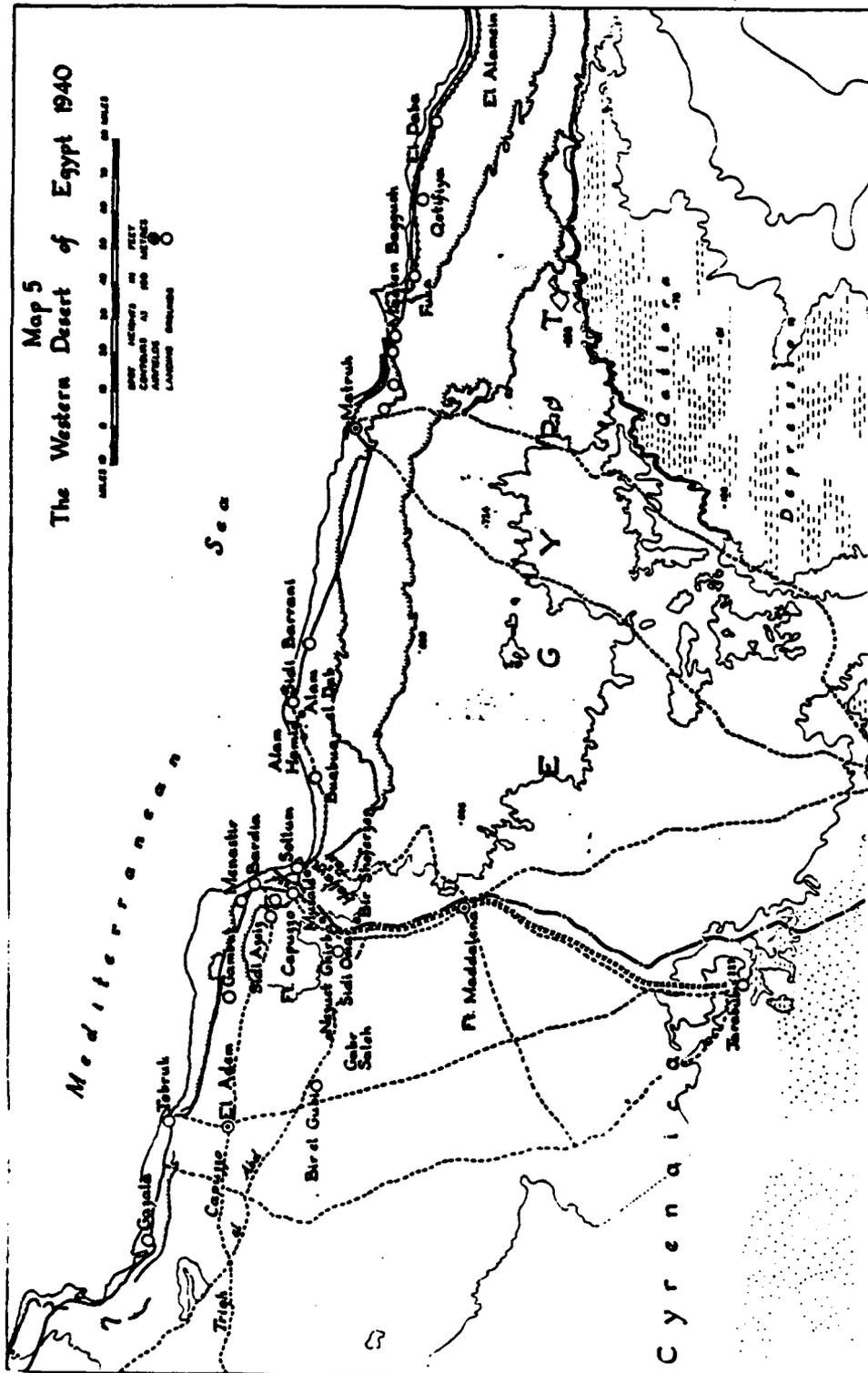


Figure 2: Map of the Western Desert. Source: The Middle East Theater of War. Source I. S. O. Playfair, The Mediterranean and the Middle East: Volume I, The Early Successes against Italy (to May 1941). History of the Second World War (London, Her Majesty's Stationery Office, 1954), 115.

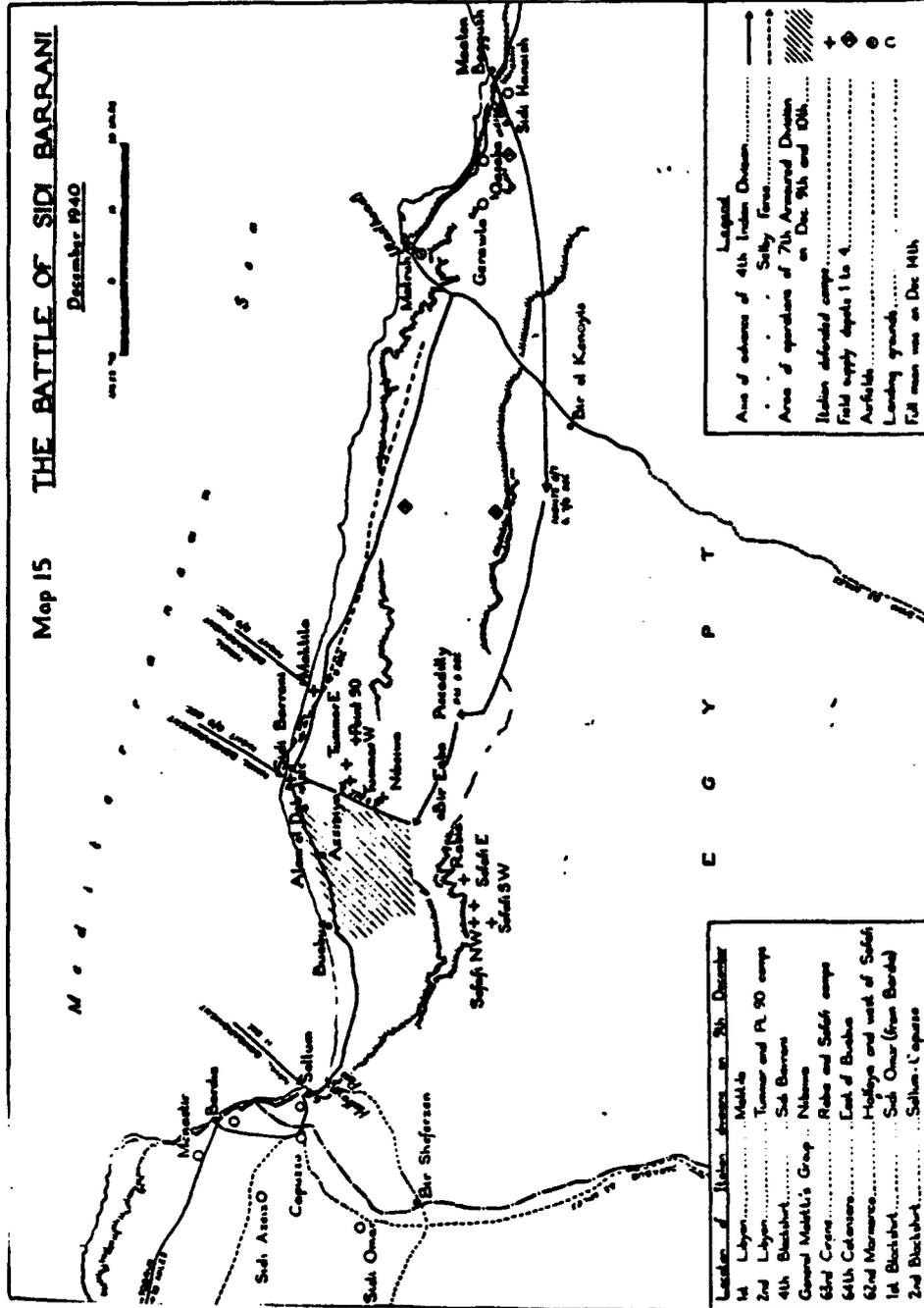


Figure 3: Map of Operation Compass. Source: The Middle East Theater of War. Source I. S. O. Playfair, The Mediterranean and the Middle East: Volume I, The Early Successes against Italy (to May 1941). History of the Second World War (London, Her Majesty's Stationery Office, 1954), 256.

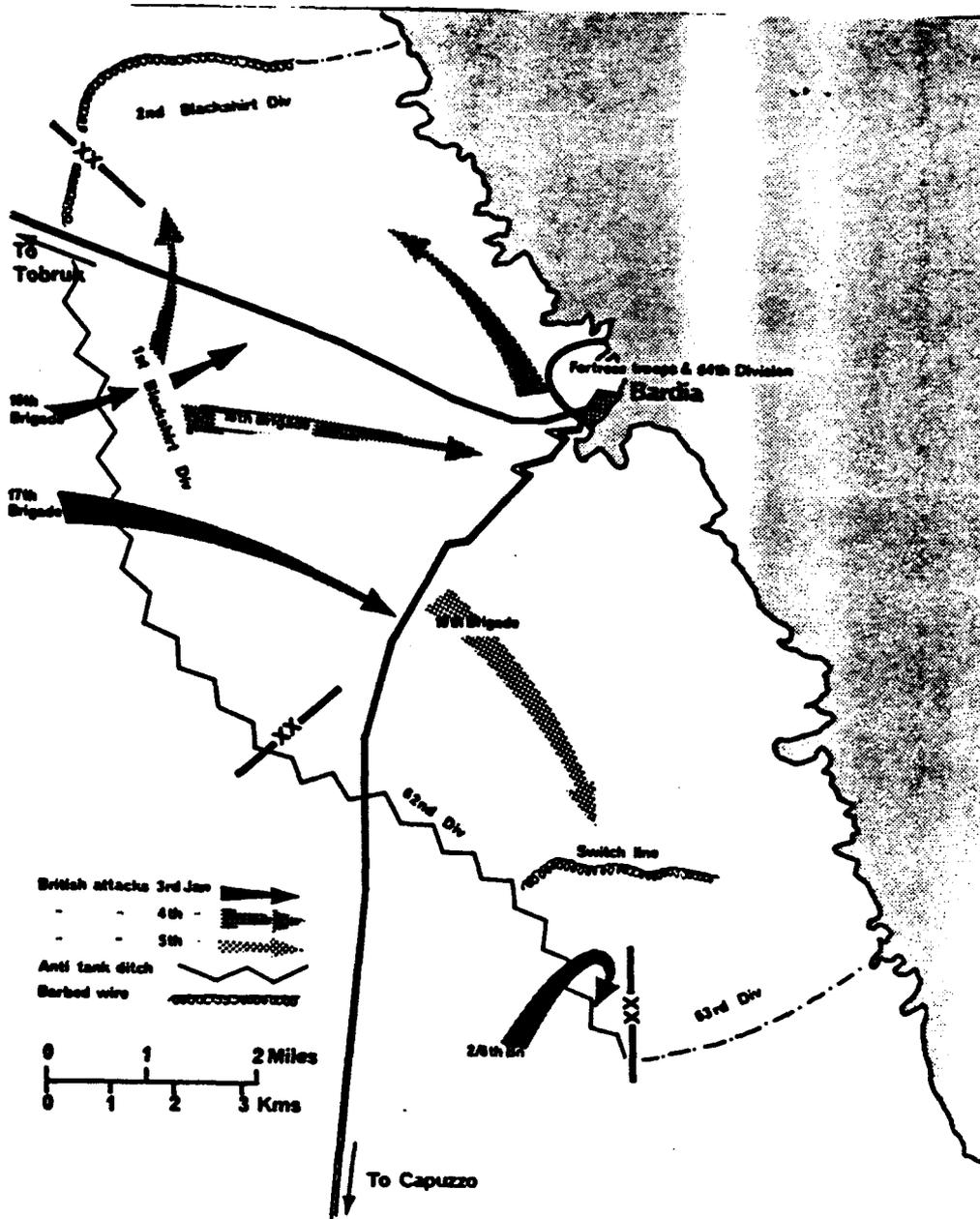


Figure 4: Map of Bardia. Source: Kenneth Macksey. Beda Fomm: The Classic Victory (New York: Ballantine Books Inc, 1971), 102.

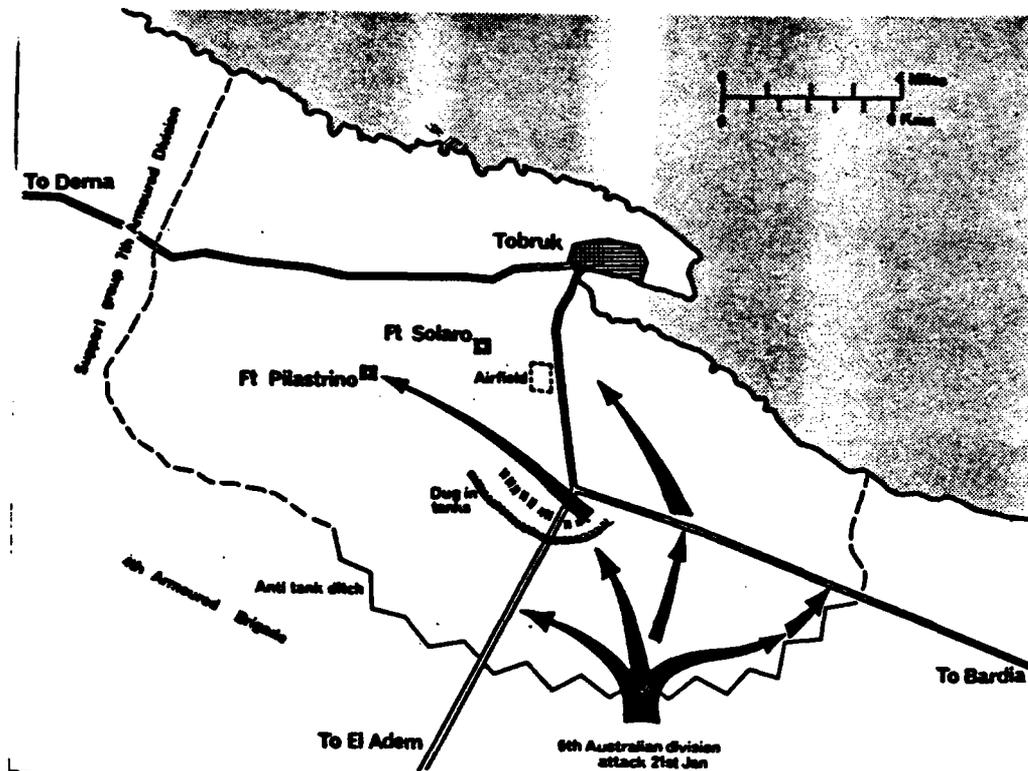


Figure 5: Map of Tobruk. Source: Kenneth Macksey. Beda Fomm: The Classic Victory. (New York: Ballantine Books Inc, 1971), 108.



## BIBLIOGRAPHY

### Books

- Atkinson, C. T. The Seventh Division, 1914-1918. London: John Murray, 1927.
- Barclay, C. N. Against Great Odds. London: Sifton Praed and Company, Ltd, 1955.
- Barnett, Correlli. The Desert Generals. 2nd Edition. Bloomington: Indiana University Press, 1982.
- \_\_\_\_\_. Britain and Her Army 1509 - 1970, A Military, Political and Social Survey. New York: William Morrow and Company, 1970.
- Baynes, John. The Forgotten Victor: General Sir Richard O'Connor, Kt, GCB, DSO, MC. London: Brassey's, 1989.
- Bickers, Richard Townshend. The Desert Air War: 1939-1945. London: Leo Cooper, 1991.
- Bond, Brian. Liddell Hart: A Study of His Military Thought. New Brunswick, NJ: Rutgers University Press, 1977.
- Butler, J. R. M. ed. Grand Strategy, Volume II, September 1939-June 1941. History of the Second World War. London: Her Majesty's Stationery Office, 1957.
- Carver, Michael. Out of Step: Memoirs of a Field Marshall. London: Hutchinson, 1989.
- Calvocoressi, Peter, and Guy Wint. Total War: The Story of World War II. New York: Pantheon Books, 1972.
- Churchill, Winston S. Their Finest Hour. Cambridge, Mass.: Houghton Mifflin Company, 1949.
- Collins, R.J. Lord Wavell, A Military Biography. London: Hodder and Stoughton, 1948.
- Connell, John. Wavell, Scholar and Soldier. New York: Harcourt, Brace and World, Inc., 1964.

- Cowie, Donald. The Campaigns of Wavell: The Inner Story of the Empire in Action. London: Chapman and Hall, Ltd, 1942.
- Forty, George. The First Victory: General O'Connor's Desert Triumph, Dec 1940-Feb 1941. Tunbridge Wells, Kent, U.K.: The Nutshell Publishing Company, Ltd. 1990.
- Fuller, J.F.C. The Reformation of War. London: Dutton, 1923.
- \_\_\_\_\_. The Foundations of the Science of War. London: Hutchinson and Company, 1925.
- \_\_\_\_\_. On Future Warfare. London: Sifton Praed and Company, Ltd., 1928.
- \_\_\_\_\_. Fuller J.F.C. Papers, Rutgers University, New Brunswick, NJ 1918, reprinted in J.F.C. Fuller and the Tank, a doctoral disertation by Robert Edward Klien, University of Chicago, 1983.
- Gordon, John W. The Other Desert War: British Special Forces in North Africa, 1940-1943. Westport, Connecticut: Greenwood Press, Inc., 1987.
- Great Britain. War Office. Field Service Regulations, Volume II. London: His Majesty's Stationery Office, 1924.
- \_\_\_\_\_. Field Service Regulations, Volume II: Operations (1929). London: His Majesty's Stationery Office, 1929.
- \_\_\_\_\_. Field Service Regulations, Volume II: Operations-General (1935). London: His Majesty's Stationery Office, 1935.
- Hinsley, F.H. British Intelligence in the Second World War. Volume 1. London, H.M.S.O., 1979.
- House, Jonathan M. Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization. Research Survey No. 2. Fort Leavenworth, Kansas: Combat Studies Institute, U.S. Army Command and General Staff College, 1984.
- Liddell Hart, B.H. The Future of Infantry. Harrisburg, PA.: Military Service Publishing, 1936.
- \_\_\_\_\_. The Other Side of the Hill. London, Cassell and Company, Ltd., 1948.

- \_\_\_\_\_. The Tanks. London: Cassell and Company, Ltd., 1959.
- \_\_\_\_\_. The Liddell Hart Memoirs, Volume I. New York: Putnam, 1965
- Larson, Robert H. The British Army and the Theory of Armored Warfare, 1918-1940. Newark: University of Delaware Press, 1984.
- Long, Gavin. Australia in the War of 1939-1945. Volume 1, To Benghazi. Canberra: Australian War Memorial, 1952.
- Luvass, Jay. The Education of an Army, British Military Thought, 1815-1940. London: Cassell and Company Ltd. 1964.
- Macksey, Kenneth. Beda Fomm; The Classic Victory. New York: Ballantine Books Inc., 1971.
- \_\_\_\_\_. Tank Warfare; A History of Tanks in Battle. New York; Stein and Day, 1972.
- \_\_\_\_\_. A History of The Royal Armoured Corps and its Predecessors, 1914 to 1975. Beaminster, England: Newton Publications, 1983.
- Mack Smith, Denis. Mussolini's Roman Empire. New York: The Viking Press, 1976.
- \_\_\_\_\_. Mussolini. New York: Alfred A. Knopf, Inc. 1982.
- Pitt, Barrie. The Crucible of War. Western Desert 1941. London: Jonathan Cape Ltd. 1980.
- Playfair, I. S. O., G. M. S. Stitt, C. J. C. Molony, and S. E. Toomer. The Mediterranean and the Middle East, Volume I: The Early Successes Against Italy (to May 1941). History of the Second World War. London: Her Majesty's Stationery Office, 1954.
- Raugh, Harold E., Jr. Wavell in the Middle East, 1939-1941. London: Brassey's, 1993.
- Roberts, G.P.B. From the Desert to the Baltic. London: William Kimber & Co Limited, 1987.
- Strawson, John. The Battle for North Africa. New York: Charles Scribner's Sons, 1969.
- Shores, Christopher, and Ring, Hans. Fighters Over the Desert: The Air Battles in the Western Desert, June

1940 to December 1942. New York: ARCO Publishing Company, 1969.

Sweet, John J. T. Iron Arm: The Mechanization of Mussolini's Army, 1920 - 1940. Westport, Connecticut: Greenwood Press, 1980.

Tedder, A. W. With Prejudice: The Wartime Memoirs of Marshal of the Royal Air Force, Lord Tedder, G.C.B. Boston: Little, Brown and Company, 1966.

United States. Department of the Army. Field Manual 100-5: Operations. Washington DC: Government Printing Office, 1986.

\_\_\_\_\_. Field Manual 100-5: Operations. Washington DC: Government Printing Office, 1993.

Villari, Luigi. Italian Foreign Policy Under Mussolini. New York: The Devin-Adair Company, 1956.

Wavell, A.P. Allenby, A Study in Greatness: The Biography of Field Marshall Viscount Allenby of Megiddo and Felixstowe, G.C.B., GC.M.G. New York: Oxford University Press, 1941.

Winton, Harold R. To Change an Army. General Sir John Burnett-Stuart and British Armored Doctrine, 1927-1938. Lawrence, Kansas: University Press of Kansas, 1988.

Wiskemann, Elizabeth. The Rome - Berlin Axis. New York and London: Oxford University Press, 1949.

Woodward, E. L., British Foreign Policy in the Second World War. History of the Second World War. London: Her Majesty's Stationery Office, 1962.

#### Periodicals and Articles

Brown, Frederic J. "AirLand Battle Future, The Other Side of the Coin." Military Review. 2 (February, 1991): 13-24.

Franks Frederick M. Jr., "Full-Dimensional Operations: A Doctrine for an Era of Change," Military Review. 12 (December, 1993): 5-10.

Funk Paul E., "Battle Space: A Commander's Tool on the Future Battlefield," Military Review. 12 (December, 1993): 36-47.

- Herrly, Peter F. "Joint Warfare, The American Way of War." Military Review. 2 (February, 1992): 10-15.
- Holder, D.L. "Concept of Operation." Military Review. 8 (August, 1990): 27-34.
- MacGregor, Douglas A. "Future Battle: The Merging Levels of War." Parameters. 4 (Winter, 1992-1993): 33-47.
- McDonough, James R. "Building the New FM 100-5: Process and Product." Military Review. 10 (October, 1991): 2-12.
- Sadkovich, James J. "Of Myths and Men: Rommel and the Italians in North Africa, 1940-1942." The International History Review. 8 (May, 1991) 284-313.
- Shelton, H.Hugh, and Benson, Kevin C.M., "Depth and Simultaneity," Military Review. 12 (December, 1993): 57-63.
- Sullivan, Gordon R. "Doctrine, A Guide to the Future." Military Review. 2 (February, 1992): 3-9.
- Wavell, A.P. "The Army and the Prophets." The Journal of the Royal Service Institution. 500 (November, 1930): 665-675.
- \_\_\_\_\_. "The Training of the Army for War." The Journal of the Royal Service Institution. 510 (May, 1933): 254-273.
- \_\_\_\_\_. "The Higher Commander." The Journal of the Royal Service Institution. 521 (February, 1936): 15-32.
- \_\_\_\_\_. "The British Expedition to Greece, 1941," The Army Quarterly. 2 (January, 1950): 178-185.

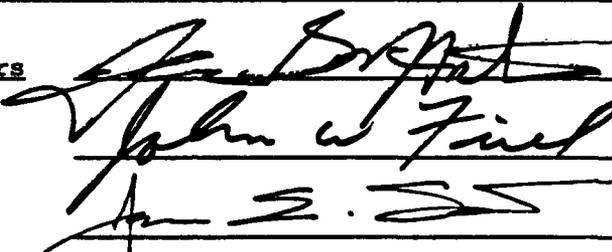
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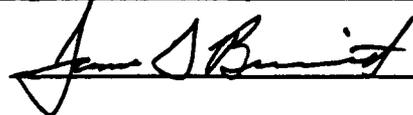
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