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BRITISH AND GERMAN LOGISTICS SUPPORT DURING
THE WORLD WAR II NORTH AFRICAN CAMPAIGN

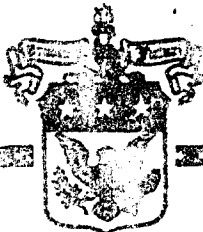
BY

LIEUTENANT COLONEL JOHN D. CAVIGLIA

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) British and German Logistics Support During The World War II North African Campaign		5. TYPE OF REPORT & PERIOD COVERED Individual Study Project
7. AUTHOR(s) Lieutenant Colonel John D. Caviggia		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army War College Carlisle Barracks, PA 17013		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS Same		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE 5 February 1990
		13. NUMBER OF PAGES 41
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution is unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Germany did not initially intend to become involved in the North African conflict. Facing a potential Italian collapse, Hitler could no longer ignore a deteriorating situation, for if Africa were lost there was a possibility that the Facist regime would also fall, removing Italy from the Axis partnership. Erwin Rommel was sent to Africa in 1941 with a small force to assist the Italians. The ensuing battles between the Axis and British forces ebbed and flowed along the North African coast for over two years. These campaigns were to become a battle of logistics characterized by severely extended lines		

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USAWC MILITARY STUDIES PROGRAM PAPER

BRITISH AND GERMAN LOGISTICS SUPPORT DURING
THE WORLD WAR II NORTH AFRICAN CAMPAIGN

AN INDIVIDUAL STUDY PROJECT

by

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Project Adviser

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U.S. Army War College
Carlisle Barracks, Pennsylvania 17013
5 February 1990

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ABSTRACT

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TITLE: British and German Logistics Support During the World War II North African Campaign
FORMAT: Individual Study Project
DATE: 5 February 1990 PAGES: 38 Unclassified

Germany did not initially intend to become involved in the North African conflict. Facing a potential Italian collapse, Hitler could no longer ignore a deteriorating situation, for if Africa were lost there was a possibility that the Fascist regime would also fall, removing Italy from the Axis partnership. Erwin Rommel was sent to Africa in 1941 with a small force to assist the Italians. The ensuing battles between the Axis and British forces ebbed and flowed along the North African coast for over two years. These campaigns were to become a battle of logistics characterized by severely extended lines of communication. Rommel's actions were characterized by an almost complete disregard for logistics in his operations planning, whereas British operations were characterized by methodical logistics planning, resulting in supply build-up prior to initiating operations. Rommel was more successful than his British counterparts in applying sound tactics (similar to our current AirLand Battle doctrine). His downfall was logistics. The British, however, were more concerned with the application of sound logistics principles which in the long run served to turn the tide of the campaign. Even though they suffered tactically during the initial stages of the campaign, they learned well from their adversary, and gained the edge which resulted in ultimate victory. Britain's ability to provide what appeared to be unlimited support in what was considered an extremely critical theater, eventually permitted her forces to overwhelm the Axis "stepchildren" of North Africa. Field Marshall Rommel learned, only too late, the importance of logistics during the conduct of this important campaign.



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BRITISH AND GERMAN LOGISTICS SUPPORT
DURING THE WORLD WAR II NORTH AFRICAN CAMPAIGN

CHAPTER I

INTRODUCTION

The purpose of this paper is to analyze logistics support concepts utilized by British and German forces during the World War II North African Campaign. As a result of this analysis the concepts which were implemented will be compared with present logistics principles and sustainment imperatives discussed by General Vuono in order to determine whether they have any utility for supporting today's AirLand Battle Doctrine.

The paper will not deal with the North African Campaign in its entirety. The analysis will include the period of 12 February 1941 to 9 March 1943. In case you are wondering about the significance of these dates, they represent Erwin Rommel's arrival and departure from the North African Theater. In addition, the focus of the paper pertains only to the provision of Class III (petroleum) and Class V (ammunition) support to the forces engaged in the North African Theater. Since the British were opposed by German and Italian forces during the campaign, these forces will henceforth be referred to as the Axis forces.

Following a background discussion of the North African Campaign, the paper will address the concepts that the British and Axis forces implemented in an attempt to sustain their efforts during the conduct of the campaign. Upon completion of this discussion I will address the problems both sides encountered in attempting to sustain their forces with emphasis

on the impact these problems had on the forces' ability to achieve their objectives. Next I will evaluate these concepts using General Vuono's sustainment imperatives and current logistics principles as a basis for the evaluation to determine whether they have any utility in supporting today's AirLand Battle doctrine. Finally, I will state my conclusions.

With all the above in mind, the basic thesis of this paper boils down to the fact that unless you are able to provide sufficient logistics support to a force it will not be successful regardless of the quantity of equipment, number of personnel, or quality of its leaders.

CHAPTER II

BACKGROUND

Initially there was no German intention to become involved in the North African conflict, for it stood within the Italian sphere of political influence.¹ Italy entered the war in June of 1940 about the time that France fell, and when it also appeared that Britain's collapse would not be far behind. Mussolini apparently was looking to share in the spoils by declaring war on both Britain and France. Italy had colonial possessions in Africa since 1890. In Libya, the closest colony to Italy itself, there were 220,000 Italians under arms. Under these circumstances, there seemed little cause for Germany to be concerned.

In June 1939, the British set up Middle East Command. Allocated forces included the unformed equivalent of two divisions, two brigade groups, an armored division well below strength, sixty-four field guns, and a camel corps of five hundred men with responsibility for defending a theater encompassing nine countries and parts of two continents covering an area 1700 miles by 2000 miles.² The Western Desert Force, a small, ill-equipped army, was given the task of protecting Egypt from attack by the Italians with forces ten times greater, and of unknown fighting quality. In effect, the British had nothing in Egypt capable of stopping the Italians before Alexandria.

The desert became a battlefield in the Second World War because it was the western flank of the British defense of the

Middle East, and the Axis attack from Italian Libya had to pass over it.³ For the British the Middle East was only just less important to the waging of the war than their own homeland: for it contained around Mosul in Iraq, and at the head of the Persian Gulf, the oil fields without which the Royal Air Force, the Army and the Royal Navy would be paralyzed.⁴ The Middle East had other strategic importances: as a support to Turkey, Russia and to action anywhere in the Mediterranean; as a half-way house to India - and Italy.⁵ However, the long campaign of 1940-43 was not fought for the Suez Canal (which bore little trans-world traffic at the time, and thus was not a 'lifeline') but for oil.⁶

Mussolini ordered his army to attack the British in Egypt, and capture the Suez Canal.⁷ Marshal Rodolfo Graziani launched a ponderous offensive into Egypt in September 1940.⁸ Italy's pride took severe knocks in North Africa during December 1940. The British assembled motorized forces from all over the Empire and staged a counterattack from Sidi Barrani, just inside Egypt, and in just ten days they were besieging the Libyan fortress at Bardia where Marshal Graziani's September offensive had begun. The Italian collapse in Libya was quickening. Of significance, the Italian fortress at Tobruk surrendered to the British. Its importance will be discussed in detail later. Hitler could no longer ignore the deteriorating situation. If Africa were lost, there was a possibility that the Fascist regime would collapse, removing Italy from the Axis partnership.⁹ Reluctantly, Hitler had no choice but to intervene on Mussolini's behalf and send assistance to Libya. An Air Corps was sent to Sicily to operate

against the Royal Navy, and two German divisions - the 5th Light and 15th Panzer - were sent to Libya. This light corps was to become known as the Deutches Afrika Korps, commanded by Hitler's personal choice, Erwin Rommel.

Rommel was to be subordinated to the Italian Commander in Chief in tactical matters, but his forces were to always be deployed together, a German group, and not scattered over the desert piecemeal supporting the Italians. Rommel's initial mission was to provide a blocking attachment to protect Tripoli. Once on the ground, however, the impatient Rommel immediately began to assess the situation. He determined that there was nothing to block, and was not satisfied with committing German troops to months of inaction in Tripoli. He was soon to begin his first offensive, in complete disregard of his orders, gambling that sure and sudden victory would keep him in good stead with Hitler. This eventually was to become Rommel's hallmark, and would characterize his operations throughout North Africa.

In just over two years, Rommel was to twice march 1500 miles eastward up the desert into Egypt, and twice to flee 1500 miles westward down it, with the British army performing the same movements in reverse.¹⁰ The map at Figure 1 reflects the coast of North Africa over which the British and Axis forces fought for just over two years.¹¹

The graph of Rommel's fortunes (and the British in reverse), during his two plus years in North Africa is easy to follow.

There is a sharp and spectacular rise for his first victory in April 1941, followed by a small decline for his failure to capture Tobruk on 1 May.¹² This is rather more than evened off by his defeat of General Wavell's minor offensive in mid-May and mid-June.¹³ Then comes a series of rapid ups-and-downs, like the recordings of a demented seismograph, at the end of November and beginning of December, ending in a long drop when he is squarely beaten by Generals Auchinleck and Ritchie, and driven back to the borders of Cyrenaica.¹⁴ At the end of the year he is back on the datum line, but another rapid rise follows when he counterattacks unexpectedly in January and February, 1942, and drives the British back to Gazala.¹⁵

At the end of May, 1942, after an initial drop that lasted only a few days, but might have been a headlong plunge to disaster, begins that most spectacular rise of all, which, in a month, carries him over and past Tobruk, past the Egyptian frontier, past Mersa Matruh, Bagush and El Daba, to Alamein and the very gates of Alexandria.¹⁶ There is the peak, for it is there that General Auchinleck holds him, and an almost imperceptible but ominous decline begins.¹⁷ General Montgomery's victories at Alam Halfa in August, and El Alamein in early November, turn it into a descent which proceeds unbroken until 12 May 1942 when the survivors of the Afrika Korps lay down their arms in Tunisia.¹⁸

The desert war of 1940-1943 is unique in history; it was fought like a polo game on an empty arena. With one exception.

there were no roads, but as virtually the whole of the arena was good going, at least for tanks, movement was almost as free as that of a fleet.²⁰ Apart from a few inhabited places along the coast there were neither towns nor villages to provide either shelter or obstacles; no civilian population to get in the way of the battle.²¹ The desert campaign was, therefore, war in the purest form.²² Yet, equally, there was in this dusty arena no food and little water; all had to be imported.²³ Supply was the major limit to free movement.²⁴

ENDNOTES

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7. David Irving, The Trail of the Fox, p. 62.
8. Ibid.
9. Macksey, p. 49.
10. Charles-Douglas Home, Rommel, p. 70.
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13. Ibid.
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CHAPTER III

LOGISTICS SUPPORT IN NORTH AFRICA

... each army in turn galloped forward until its momentum was exhausted and then was compelled to gallop back to avoid annihilation. The reason centered almost entirely in supply and, like a piece of elastic, the line of supply of both armies would be stretched with comparative safety between 300 and 400 miles from its base - Tripoli on the one hand and Alexandria on the other. But as these two main bases were over 1400 miles apart, to try to stretch them farther before intermediate bases were established was to risk snapping the elastic. The supply problems of both sides was how to increase the elasticity of their respective supply systems. This could only be done by building up stock piles at their respective main bases and step by step pushing forward the advance bases. As both sides were separated from their homelands by the sea, the tussle was governed by sea communications.¹

SECTION 1 - THE AXIS FORCES

Once Rommel arrived in Libya he immediately began to daydream about great conquests. Even though by now the British greatly outnumbered his German forces, he had big ambitions... as his first objective, the reconquest of Cyrenaica; the second, northern Egypt and the Suez Canal which was some 1500 miles east of Tripoli. In his draft letter to Berlin he airily dismissed the most obvious drawback: "Organizing supplies for such operations will be extremely difficult - but the brunt of the fighting will come in Cyrenaica, and there is water in abundance there."² The General Staff, however, was not convinced, and

advised Hitler not to accept Rommel's plans. General Halder, then the Chief of the General Staff, had maintained that as long as the British dominated the Mediterranean, the very most that could be supplied adequately were three to four divisions. Rommel, however, believed he would need another two panzer corps (over the one he was given). Halder asked Rommel how he was going to supply them and he replied, "That's quite immaterial to me. That's your pigeon."³ From the outset, however, the restrictions of logistics hampered everything that Rommel wished to accomplish.

The Axis were completely dependent on sea transport even for their most elementary requirements. Every single ton that was consumed by Rommel's troops had to be laboriously crated in Italy, then shipped across the Mediterranean - ammunition, petroleum, everything was brought up this way.⁴ Added to this problem were the enormous distances that were out of all proportion to anything the Wehrmacht had been asked to deal with in Europe.⁵ From Brest-Litovsk, on the German-Soviet demarcation line in Poland, to Moscow was only some 600 miles.⁶ This was approximately equal to the distance from Tripoli to Benghazi, but only half that from Tripoli to Alexandria.⁷ Apart from odd bits of 95cm track these vast empty spaces had to be entirely covered by road, and even of these there was only one - the Via Balbia - stretching endlessly along the coast, sometimes liable to be interrupted by floods, and always a convenient target for aircraft roaming overhead.⁸

Naples, Bari, Brindisi and Taranto were all available as ports of embarkation with Naples being the primary port of embarkation due to the structure of the Italian rail network.⁹ However, since the fall of Cyrenaica in February 1941, the Axis were reduced to a single port for unloading supplies.¹⁰ This was Tripoli, the largest Libyan harbor by far, capable of handling - under ideal conditions - five cargo ships or four transports simultaneously.¹¹ As long as no unforeseen explosions wrecked the quays, and the largely local labor force was not driven off by air raids, the capacity amounted to approximately 45,000 tons per month.¹²

At Tripoli, however, the problems of maintaining an army in North Africa were only beginning. By this time, the front had been stabilized at Sirte, 300 miles east of Tripoli. Since there was no adequate railway running eastward from Tripoli, this meant that even under the most favorable circumstances, the Axis forces would have to operate at a distance from their base half again as large as that normally considered the limit for the effective supply of an army by motor transport.¹³ Mussolini attempted to bring attention to this fact but was overridden by the Germans, thus creating a clash between operational and logistics considerations that was to haunt their presence in Africa to the end.

A motorized force of one division, such as the 5th Light which the Germans sent to Libya, required 350 tons of supplies per day.¹⁴ To transport this quantity over 300 miles of desert

(the distance from Tripoli to the front) required 39 columns of trucks with 30 two-ton trucks in each column (1170 trucks).¹⁵ As reinforcements arrived, or as the 300 mile distance increased, more trucks would be required. With the two German divisions and associated forces in the Afrika Korps, this raised the motor transport to 6,000 tons.¹⁶ With Hitler's impending invasion of Russia, there was no way additional resources could be provided for Rommel's side-show in North Africa. Coastal shipping could not significantly reduce the problem either. Even though Rommel received trucks from Hitler, he was forbidden from taking any large-scale offensive action that would raise his requirements still further. The damage, however, had already been done, for Rommel's two divisions had already jeopardized his supplies. Together with the Italians, the Axis forces in Libya now totaled seven divisions, which, when air force and naval units were added, required 70,000 tons per month. This was more than Tripoli could handle effectively, so additional ports were required.

Rommel meanwhile had defied Hitler's explicit orders by taking the offensive in April. He drove the British out of Libya, invested Tobruk (which he was unable to eliminate) and finally came to a halt at Sollum on the far side of the Egyptian frontier. His strategic blunder failed for two reasons - he failed to bring decisive victory, and it added another 700 miles to his already overextended line of communication.¹⁷ From February to May, Rommel and his Italian allies received a total of 325,000 tons of supplies, or 45,000 more than current

consumption, but he was unable to bridge the enormous gap from Tripoli to the front, so his supplies piled up on the wharves while shortages arose in the front line.¹⁸

The Axis never solved the logistics problems due to Rommel's persistence in undertaking operations which were not logistically feasible. He never seemed to want to take the time to build up his advance bases prior to kicking off an operation. He virtually lived hand to mouth. Some of Rommel's primary sources or concepts of supply were to capture British booty to sustain his efforts. The British, unlike their Axis adversaries, believed in supply build-up prior to executing an operation. Even though their tactics were inferior to those employed by Rommel, a combination of their persistence and his disregard for logistics contributed significantly to his eventual defeat.

SECTION 2 - THE BRITISH FORCES

As early as 1940, the British began their preparations for the North Africa Campaign. A small force was initially collected at Mersa Matruh, a little white village by the sea. This village was known before 1936 only to Greek sponge-fishers and the middle men who handled the export trade for Siria Oasis.¹⁹ This, however, was the terminus of the railway and the metalled road from Alexandria, and now it became a base and a fortress.²⁰ When the Italians first drove the British back to the Egyptian frontier, Sir Archibald Wavell wisely held fast to Tobruk, and so deprived his enemy of the only good seaport east of Benghazi - 340 miles west of Tobruk.²¹ Though its retention diminished Wavell's striking force in Egypt by two divisions, it put a stop to further eastwardly advances of his adversary.²² It lengthened the enemy land communications, and compelled him to invest Tobruk: not until he reduced it would he have sufficient force to continue his advance on Alexandria.²³

The main British communications with Alexandria and Suez had to go by way of the Cape of Good Hope, a voyage of 12,000-13,000 miles.²⁴ Thus the Eighth Army had the longest lines of supply that history has ever known.²⁵ There were actually two main routes to the Middle East from Britain and America: by sea as mentioned earlier around the Cape of Good Hope, and by air across the middle of Africa over the Niger, and then north along the Nile Valley.²⁶ Rommel, with supply lines one-tenth the length of the British, lost significant portions of his supplies as they

crossed the Mediterranean, through a combination of bombing and strafing of ports and ships as they crossed and interdiction by the Royal Navy and fleet air arm destroying Rommel's convoys.²⁷

The British forces were much more methodical in their planning. Their concepts revolved around ensuring a sufficient build-up of supplies prior to commencing an operation. They also used multiple means of moving their supply. For both sides, the prime containers for fuel were either 55 gallon drums or the infamous gerrycan. Most movement was done by truck. The British did, however, manage the use of railways when they were available (especially in Egypt from the main ports - Alexandria, Suez etc., to areas as far forward as possible). Even though tactically inferior initially, the British strength eventually became their ability to wear down the Axis by a mixture of overwhelming superiority in material and an ability to maintain and move large supplies of ammunition and fuel.

The following account describes how the British prepared for battle in the desert. Field Marshall Auchinleck, in preparing for a major operation (Crusader) in late 1941, organized the construction of large forward supply dumps: the railway from Alexandria was extended farther westward; and a pipeline for fuel was laid along 150 miles.²⁸ Nearly 30,000 tons of munitions, fuel and supplies were stored in the forward area before the battle opened.²⁹ There is an inescapable contrast between these deliberate and methodical preparations for a British offensive, and the impression which Rommel nearly always gives of an almost

haphazard approach to the problem of supply.²⁹ This may partly have been due to the fact that in the desert he was not in sole command of the supply organization, and there was constant feuding about it with the Italians - aggravated by the different equipment the two allies used.³⁰

Again methodical buildup was indeed characteristic of the British concept of support prior to engaging in major operations. Rommel makes many references to the overwhelming booty captured following the defeat of British units throughout the desert. In some cases, such as Benghazi and Tobruk, the build up was so extensive it couldn't be destroyed. Other examples cite dumps as large as six miles square being established and camouflaged in the desert, and that in his haste to destroy the enemy, Rommel overlooked the vast booty that would have been invaluable to his forces.

Aerial resupply did not appear to play a significant role in supporting British forces in the theater. The British relied primarily on their sea and land lines of communication throughout the campaign. In actuality, an efficient air transport service had not yet been established. This is one facet where the Axis did somewhat better than the British.

ENDNOTES

1. Charles-Douglas Home. Rommel. pp. 70-71.
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3. Ibid., pp. 70-71.
4. Martin Van Creeveld, Supplying War, p. 182.
5. Ibid.
6. Ibid.
7. Ibid.
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19. Correlll Barnett. The Desert Generals, p. 25.
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21. J.F.C. Fuller. "From the Seven Days Battle, 1862, to the Battle of Leyte Gulf, 1944," A Military History of the Modern World, p. 479.
22. Ibid., pp. 479-80.
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CHAPTER IV

PROBLEMS

Numerous problems plagued the British and Axis forces as the war ebbed and flowed across North Africa for over two years. The Axis forces, by far, experienced substantially more difficulty than the British however. Many of these problems appeared to be easily solveable, yet went unattended, and subsequently resulted in the routing of the Axis forces from the theater.

One of Hitler's major problems in North Africa was Italy itself. Due to the ineptness of the Italian army, by virtue of political reasons more so than strategic issues, he was forced to commit forces to assist his Axis partner. Things just went downhill from there. Rommel was doomed to ultimate failure from the beginning.

First of all, was the question of forces. Hitler could not afford to commit significant numbers of forces to North Africa because of his plans to invade Russia. In the early stages, even Rommel was unaware of the invasion plans. Rommel would have to compete with the needs of the Russian front for the duration of his stay in Africa. Even if more forces could have been provided, supporting them would have been impossible. Facilities with the necessary capabilities to support a larger force just were not available.

Following his arrival in February 1941, Rommel was subordinated to the Italian High Command (Commando Supremo). In

addition to this peculiar command relationship whereby the German forces worked independently and as one unit under Rommel, he also had to rely upon the Italians for supply support. Rommel was always at odds with the Italians over support shortfalls and problems. Realistically it was a problem of Rommel's own making, and the knowledge of this only angered him more. His injustice towards the Italians derived from the frustration of his hand-to-mouth existence.¹ The Italians accused him (and in most cases, rightly so) of disobeying orders and of overextending his lines of communication. But Rommel never believed that the severe problems he was experiencing were due to his own shortcomings. Rommel, therefore, totally mistrusted his Italian allies. Frustrations continued also over numerous broken promises from his own high command, especially when they involved supply.

Rommel gives the following reasons why his supply failed:²

(a) Many of the authorities responsible for supply did not put their best effort into it, simply because they themselves were not directly threatened by the urgency of the situation.

(b) The protection of our convoys at sea was the responsibility of the Italian Navy. A great part of its officers, like many other Italians, were not supporters of Mussolini and would rather have seen our defeat than our victory.

(c) Most of the higher Fascist authorities were too corrupt or too pompous to do any good. Frequently too, they wanted as little as possible to do with the whole African war.

(d) Those who did give of their best to get supplies to us were unable to make any headway in the maze of over-organization which existed in Rome.

Control of shipping across the Mediterranean lay in the hands of the Comando Supremo.³ We had no influence whatever over the shipping lists, the ports of arrival, or - most important - the proportion of German to Italian cargoes.⁴ In theory it was supposed to be a ratio of 1:1: In fact, it moved steadily to the German disadvantage.⁵

Malta also proved to be an albatross around Rommel's neck. Malta, Britain's "unsinkable aircraft carrier," was the major stumbling block for Axis supply to North Africa.⁶ Incessant aerial attacks and Axis surface attacks almost throttled all efforts to supply it.⁷ But once again, the needs in Russia and Rommel's own insatiable appetite to continue the pursuit, cost the Axis dearly. Malta's fighter squadrons played havoc with Axis supply throughout the campaign.⁸ One-third of Axis supply ships from Italy were sunk in September, and in November British fighters sank three-quarters of the Axis surface craft.⁹ This toll of supply ships was a direct result of the Allies' ability to read German secret radio messages, through a highly classified British code-breaking project known as "Ultra."¹⁰

Malta's role in cutting supply by surface ship forced the Germans to send reinforcements by air. By that time much Luftwaffe strength had gone to the Russian front, and the rest in this area was supporting Rommel, and not much support at that.

Malta dominated Rommel's supply lines and was highly relevant to the occasional British convoy which braved the Mediterranean run to Alexandria rather than the very much longer route around the Cape.¹¹ Malta was the topic of much discussion by the Axis and the British. The British realized its importance. The Axis, even though they realized its importance, ignored it. When the question of whether Malta should take precedence over Rommel's plans for advancing to the east, the neutralization of Malta was put off. Hitler never seemed to have the foresight for the importance of Malta, and continued to support Rommel over the objections of his staff - a mistake for which the Axis paid dearly.

The lines of communication in the theater were not at all adequate. As was mentioned earlier, there was only one major road along the entire coast. Even though the Axis sea lines of communication were significantly shorter than the British, the Axis' reluctance to neutralize Malta, and inability to maintain air superiority over the Mediterranean, made this journey extremely perilous to say the least. Air, even though used to a limited degree, could never bring any significant power to bear on behalf of the Axis. There was always a conflict with requirements for the Russian front, and it became unreliable.

The Axis did not have access to adequate port facilities to support their forces. Capacities to sustain their efforts were rarely achieved. When convoys eventually arrived, they were at ports too far to the rear to be of any benefit.

In the end the British basically won the "elastic" war. With major bases in Egypt they had an area out of which to operate. Even with severely extended sea lines of communication, they were more successful than the Axis in supporting their forces. One of the major disadvantages the British had to overcome was their tactical doctrine. Their concepts of operation worked because they understood their limitations. They used this to their advantage in the end by forcing Rommel to fight on their terms - static battle - versus mobile defense which Rommel preferred. The British identified and attacked Rommel's center of gravity - his lines of communication - and attacked them incessantly. Rommel, on the other hand, failed to identify the British center of gravity. Rommel was more interested in destroying British combat forces than lines of communication and supply installations. By virtue of their resolve and overwhelming material superiority, the British won the "eventual battle of attrition."

The British faced basically the same hardships as the Axis forces. Their initial tactical shortcomings were overcome by the experience they gained in fighting and "sticking to their game plan" where logistics was involved.

They took advantage of the rail system: they constructed pipelines: they built up supplies before initiating a major operation: they identified the need for strong fortification and port complexes: they obtained and maintained air superiority, and used it to protect their lines of communication, while also wreaking havoc on the Axis lines.

The British were not looked upon as the proverbial "stepchild" They realized the strategic importance of the Middle East and devoted sufficient resources to the theater to protect their interests and achieve their objectives.

The bottom line is that the British were able to solve their problems while the Axis were pre-occupied with the wrong reasons for prosecuting the fight.

ENDNOTES

1. David Irving, The Trail of the Fox, p. 95.
2. B. H. Liddell Hart, The Rommel Papers, pp. 243-44.
3. Ibid., p. 266.
4. Ibid.
5. Ibid.
6. R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History from 3500 B.C. to the Present, p. 1087.
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid.
11. Charles-Douglas Home, Rommel, p. 137.

CHAPTER V

NORTH AFRICA AND AIRLAND BATTLE

An army must possess a capability to sustain itself in order to be successful in combat. Today the U.S. Army's ability to sustain its operations is more important as an element of combat power than ever before.¹ I believe that the significance of this statement not only applies to today's armies, but to those forces which were engaged in the North African Campaign from 1941 to 1943. If Erwin Rommel were here today, he would certainly agree! Here are some examples of the Axis situation during the second battle of El Alamein.

The supply situation was now approaching disaster. The tanker, Prosperina, which we had hoped would bring some relief in the petrol situation, had been bombed and sunk outside Tobruk. There was only enough petrol left to keep supply traffic going between Tripoli and the front for another three days, and that without counting the needs of the motorized forces, which had to be met out of the same stocks. What we should really have done now was to assemble all our motorized units in the north in order to fling the British back to the main defense line in a concentrated and planned counter attack. But we had not the petrol to do it. So we were compelled to allow the armored formations in the northern part of our line to assault the British salient piecemeal.²

In a related example of that same battle, General Stromme, who had been acting commander of the Afrika forces during Rommel's absence - due to sickness, had forbidden the bombardment

of British assembly positions on the first night of the attack at El Alamein on account of the Axis' ammunition shortage.³ The British, on the other hand, were experiencing quite the opposite which is evident by this example.

The tactics which the British were using follows from their apparent inexhaustible stocks of ammunition. The enormous quantities of ammunition which the enemy tanks used - sometimes they fired over 30 rounds at one target - were constantly replenished by armored ammunition carrier.⁴

General Vuono discusses sustainment imperatives (anticipation, interpretation, continuity, responsiveness and improvisation), and emphasizes the absolute necessity that sustainment planning coincide with operational planning. If applied properly, these imperatives will assist in the pursuit of the four tenets (initiative, agility, depth and synchronization) of AirLand Battle doctrine. The sole measure of successful sustainment has always been the generation of combat power at the decisive time and place.⁵ As you examine these imperatives and tenets and apply them to the North African theater, it is quite evident that not only are they true today, but were just as appropriate then.

Throughout most of this campaign, Rommel was able to out maneuver his British opponent, using those same tenets that we subscribe to in today's AirLand Battle doctrine. They may not have been called initiative, agility, depth or synchronization, but the outcome was favorable.¹¹ In those early days it is difficult to say exactly why Rommel was so successful. Was it

luck, skill on his part, incompetent leadership by British commanders, doctrinal differences? It is probably fair to say that it was a little of each. The British tendency was to gear themselves to a "static" battle. Rommel, on the other hand, favored maneuver and mobile defense. He used these tactics to overcome the disadvantages he had in forces, equipment, and even in some cases, ammunition and fuel shortages. The British on the other hand, lumbered along committing armor in a piecemeal manner, and even though superior in total numbers, were constantly defeated by a smaller but more concentrated Axis force. One of the major innovations of the war was Rommel's unprecedented use of the 88mm anti-aircraft gun in an anti-tank role. This was perhaps one of the greatest successes of the war. It was not until later in the campaign that the pendulum finally swung to the British. Because of the tactical lessons they learned, and due to their meticulous planning, seemingly inexhaustible supply (compared to Rommel's disastrous posture), and the ability to fight the battles on their terms, the British began their final push across North Africa. After their victory at El Alamein, the British 8th Army began a drive which, in just 80 days, had advanced nearly 1400 miles, a feat unparalleled in military history. How did they accomplish this? They accomplished the feat basically by using World War II's version of the tenet of AirLand Battle doctrine ... initiative, agility, depth and synchronization.

Adherence to basic logistics principles can also contribute to the conduct of a successful operation. Let's look at some logistics principles described by James A. Huston in his article, "16 Principles of Logistics," contained in the September/October 1988 issue of Army Logistician, and see what impact they had on the outcome of the North African Campaign. These principles serve as guidelines and may not apply in all cases. There are, however, some which I believe had significant application in the North African theater for both the British and Axis forces.

Probably the most critical principle was dispersion. Huston discusses this principle as follows: Within reasonable bounds, storage and other logistics activities should be dispersed; and multiple lines of communication should be used when possible to minimize losses from enemy action, to ease congestion, and to draw upon multiple sources of supply.⁷

Both the British and Axis forces had difficulty complying with this principle. The primary reason was one of geography - there was only one road, the Via Balbia, in the entire theater. During the Axis retreat to Tunisia it did in fact become clogged and impassable. Supplies, what little there were, were held up. The British, with their air superiority, easily interdicted the supply columns. The lines of communication were thus extremely long and vulnerable. The sea line from Italy to the theater, even though much shorter than that of the British, which ran around the Cape of Good Hope, was also easily interdicted by British air from Malta and by the Royal Navy operating in the

Mediterranean. The British were able, due to their air superiority, to use the roadway more effectively, and because of their technical achievements, provide adequate convoy protection to shipping going around the Cape.

The next relevant principle is feasibility. Again according to Huston, not only are strategic and tactical plans limited by the feasibility of logistics support; logistics support plans themselves are subject to the capabilities of the national economy, the availability of other resources, and the limitation of secondary requirements.⁸ Secondary requirements basically relate to the cost of providing support. Rommel quite often felt the strain of the logistics system, and was hampered by the Axis' inability to support his needs. Some of these problems he brought about on his own by completely disregarding the logistics aspect of his planning. In other cases, he was in competition with German forces fighting on the Russian front. Rommel's tendency was to take more risks, whereas the British practice was to build up supplies prior to initiating an operation. Another factor favoring the British was the criticality of the theater. Unlike the "stepchild" Axis forces, defense of this theater was second only to protecting the homeland.

Logistics resources are almost always limited, and must be concentrated in the best way to achieve the primary mission. In all cases, costs must be considered, and the least expensive means consistent with the primary purpose should be chosen. The ratio of secondary to primary requirements should be kept low.

Producibility of a given item may be as important as battlefield performance. Oversupply should be avoided. These previous five sentences address the principle of economy.⁹ Of note here is that once Rommel's supplies arrived from Italy (and that was usually not too often), mainly at the port of Tripoli, they had to be moved by road. In some instances, his ground transport consumed as much as 60 percent of the total amount of fuel received in moving it from the port to the forward area. The British, however, were able to use more economical means of moving fuel, i.e. railway and pipeline, and were able to provide forward stockage, thus reducing "secondary consumption," as well as maintaining a more economical operation.

The last principle I am going to address is unity of command. Logistics is a function of command. Control of logistics is essential to the control of strategy and tactics. For a given area or mission, a single authority, identical with the command authority, should be responsible for logistics.¹⁰ The following illustrates Rommel's dilemma concerning the application of this principle. The only influence which the Panzer Army Command could exercise on the supply question was production of a "priority list," that is to say a list showing the order in which the material stored in Italy should be brought to Africa - if at all.¹¹ As was stated earlier in the paper (Chapter IV), Comando Supremo controlled the shipping across the Mediterranean and which ports would receive supplies. Logistics control of the North African theater was, therefore, essentially controlled from

Rome. The British system, on the other hand, seemed to be much more responsive to the commander on the ground.

Adherence to sound logistics principles can mean the difference between success and failure. The outcome of the North African Campaign was obviously influenced by those four principles I discussed above. I am not implying that the principles above are the only ones which apply to the theater, but, in my mind, they are probably the most critical and played a more significant role in the outcome of that campaign.

ENDNOTES

1. U.S. Department of the Army. Field Manual No. 100-5: Operations, p. 59 (hereafter referred to as "FM 100-5").
2. B. H. Liddell Hart, The Rommel Papers, pp. 307-8.
3. Ibid., p. 305.
4. Ibid., p. 302.
5. FM 100-5, p. 60.
6. Desert Victory, n.p. (Video).
7. James A. Huston, "16 Principles of Logistics," Reprinted from Army Logistics, pp. 14-15.
8. Ibid.
9. Ibid.
10. Ibid.
11. Hart, p. 267.

CHAPTER VI
CONCLUSIONS

The lessons of the period of the Libyan campaigns proper seem clear. First Rommel's supply difficulties were at times due to the limited capacity of the North African ports, which not only determined the largest number of troops that could be maintained, but also restricted the size of convoys, making the business of escorting them impossibly expensive in terms of the fuel and shipping employed.¹ Hitler's eventual decision to forego the invasion of Malta in favor of supporting Rommel's thrust to Egypt was a primal cause of the Axis' disastrous supply situation. More significant were the distances that had to be overcome inside Africa.² Even though coastal shipping was employed on a limited scale in 1942, it was virtually ineffective due to the Royal Air Force's domination of the air. The nearer the (Axis) front a port lay, the more exposed to attack it became by (British) air.

It was rarely that the British supply ports received the serious attention of German bombers.³ From their ports in Egypt the British could feed supplies to the front over three different routes:⁴

1. By a well laid railway line running from the Suez Canal area to the outer perimeter of Tobruk.

2. By sea. The British Navy had created an admirable coastal shipping organization and had the use of Tobruk, one of the best ports in North Africa.

3. By road. They had the coast road and abundant transport at their disposal.

The British considered North Africa as a principal theater of war, and, therefore, regarded the fighting in Libya as a decisive influence. Subsequently, the British Government made tremendous efforts to provide her forces with all the material they could lay their hands on. The British could always get supplies to their forces in the Middle East. Moreover, they could get all the fuel they wanted, and more, from the refineries in the Near East.⁶

Rommel's repeated defiance of his orders and attempts to advance beyond a reasonable distance from his bases was a severe mistake and should never have been tolerated. Granted that due to the political situation, Hitler was burdened with much useless Italian ballast.⁷ Even in view of Rommel's tactical brilliance, it seems that the problem of supplying an Axis force for an advance into the Middle East was insoluble.⁸

The British, meanwhile, seemed to have all the trump cards. As it turned out, it was only a matter of time before the infamous Afrika Korps would be chased from North Africa.

In the end it is rather ironic that Rommel would say the following:

The first essential condition for an army to be able to stand the strain of battle is an adequate stock of weapons, petrol and ammunition. In fact, the battle is fought and decided by the quartermasters before the shooting begins. The bravest men can do nothing without guns, the guns nothing without plenty of ammunition; and neither guns nor ammunition are of much use in mobile warfare unless there are vehicles with sufficient petrol to haul them around.9

This represents quite a turnaround from his perception of the importance of supply when he first arrived in Africa.

ENDNOTES

1. Martin Van Creveld, Supplying War, p. 199.
2. Ibid.
3. B. H. Liddell Hart, The Rommel Papers, p. 193.
4. Ibid.
5. Ibid.
6. Ibid.
7. Van Creveld, p. 201.
8. Ibid.
9. Ibid., p. 200.

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1. Barnett, Correlli. The Desert Generals. Bloomington: Indiana University Press, 1982.
2. Desert Victory. International Historic Films Inc. 1984. Video.
3. Douglas-Home, Charles. Rommel. New York: Saturday Review Press, 1973.
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8. Huston, James A. "16 Principles of Logistics," Reprinted from Army Logistics. September/October 1988.
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13. Van Creveld, Martin. Supplying War. Cambridge: Cambridge University Press, 1977.
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15. Vuono, Carl E., General. "Sustaining Combat Power." Reprinted from Army Logistician. July/August 1988.
16. Young, Desmond. Rommel, The Desert Fox. New York: William Morrow and Company, Inc., 1978.