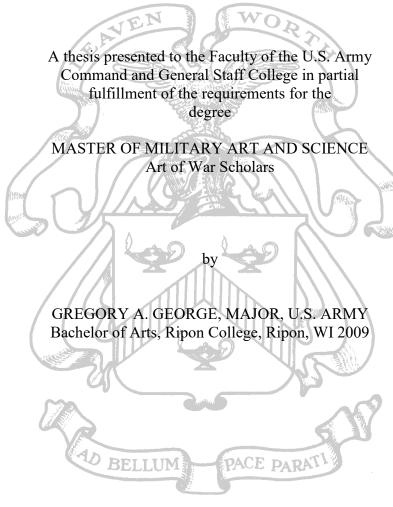
MULTINATIONAL INTEROPERABILITY AND OPERATIONAL SUCCESS DURING LARGE-SCALE COMBAT OPERATIONS: NORTH AFRICA, 26 MAY – 1 JULY 1942



Fort Leavenworth, Kansas 2020

Approved for public release; distribution is unlimited. Fair use determination or copyright permission has been obtained for the inclusion of pictures, maps, graphics, and any other works incorporated into this manuscript. A work of the United States Government is not subject to copyright, however further publication or sale of copyrighted images is not permissible.

	REPORT I	Form Approved OMB No. 0704-0188 he time for reviewing instructions, searching existing data					
sources, gatherin aspect of this coll Information Opera any other provisio	g and maintaining the da ection of information, ind ations and Reports (070	ata needed, and compl cluding suggestions for 4-0188), 1215 Jefferso Il be subject to any per	eting and reviewing this or reducing this burden to D n Davis Highway, Suite 12 alty for failing to comply v	ollection of information Department of Defense 204, Arlington, VA 222	Send comments regarding this burden estimate or any other , Washington Headquarters Services, Directorate for 02-4302. Respondents should be aware that notwithstanding rmation if it does not display a currently valid OMB control		
1. REPORT I	DATE (DD-MM-Y)	(YY) 2. REP	ORT TYPE		3. DATES COVERED (From - To)		
12-06-202 4. TITLE ANI		Maste	er's Thesis		AUG 2019 – JUN 2020 5a. CONTRACT NUMBER		
4. IIILE ANI	DSOBIILE	Sa. CONTRACT NUMBER					
Multinational Interoperability and Operational Success during Large-Scale Combat Operations: North Africa, 26 May – 1 July							
1942		5c. PROGRAM ELEMENT NUMBER					
6. AUTHOR(S)	5d. PROJECT NUMBER					
Gregory A. George					5e. TASK NUMBER		
					5f. WORK UNIT NUMBER		
U.S. Arm ATTN: A	IING ORGANIZA y Command TZL-SWD-C enworth, KS	8. PERFORMING ORG REPORT NUMBER					
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)					10. SPONSOR/MONITOR'S ACRONYM(S)		
					11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
	ution / availae l for Public R		ENT ibution is Unli	imited			
13. SUPPLE	MENTARY NOTE	S					
14. ABSTRA	СТ						
The Germ	on Italian Da	nzer Army A	frice won Po	mmal's graat	test victory in North Africa. Late		
		•		0	5		
20th and early 21st century scholars such as Sadkovich, Carrier, and Scianna have successfully redefined the view of the World War II Italian army as a capable fighting force. As the U.S.							
					at operations, examining the		
•		-	U		1 0		
multinational interoperability of aspects of Panzer Army Africa's victory contributes to future success in combined large-scale combat at the operational level. The case study reinforces the							
importance of unity of effort, the roles of commanders and liaison teams, and proper							
-	•						
echeloning of the multinational force. These keys play out in multinational interoperability's human, procedural, and technical domains and promise future operational success in combined							
large-scale combat operations.							
large sea	e comour ope	iutionit.					
15. SUBJEC	T TERMS						
	-	rability, Nort	h Africa 1942	, Operationa	l Interoperability, Cooperation,		
	Operations		47 1 100 2 4 21 0 11				
16. SECURI	TY CLASSIFICAT	ION OF:	17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON		
a. REPORT	b. ABSTRACT	c. THIS PAGE	1		19b. PHONE NUMBER (include area code)		
(U)	(U)	(U)	(U)	120	. ,		
			· · · ·	•	Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std. Z39.18		

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: Gregory A. George

Thesis Title: Multinational Interoperability and Operational Success During Large-Scale Combat Operations: North Africa, 26 May – 1 July 1942

Approved by:

_____, Thesis Committee Chair Dean A. Nowowiejski, Ph.D.

_____, Member __

LTC James D. Ballard, M.A.

Accepted this 12th day of June 2020 by:

, Director, Office of Degree Programs

, Member

Prisco R. Hernandez, Ph.D.

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

ABSTRACT

MULTINATIONAL INTEROPERABILITY AND OPERATIONAL SUCCESS DURING LARGE-SCALE COMBAT OPERATIONS: NORTH AFRICA, 26 MAY – 1 JULY 1942, by Gregory A. George, 120 pages.

The German-Italian Panzer Army Africa won Rommel's greatest victory in North Africa. Late 20th and early 21st century scholars such as Sadkovich, Carrier, and Scianna have successfully redefined the view of the World War II Italian army as a capable fighting force. As the U.S. Army shifts the doctrinal emphasis towards large-scale combat operations, examining the multinational interoperability of aspects of Panzer Army Africa's victory contributes to future success in combined large-scale combat at the operational level. The case study reinforces the importance of unity of effort, the roles of commanders and liaison teams, and proper echeloning of the multinational force. These keys play out in multinational interoperability's human, procedural, and technical domains and promise future operational success in combined large-scale combat operations.

ACKNOWLEDGMENTS

First and foremost, I thank my wife Meagan, for her tolerance, understanding, and support in this time-consuming academic pursuit. I thank my sons Will, Ec, and Rory for their 5-, 3-, and 1-year-old's understanding of "Daddy's working," or "Daddy's doing homework," and the subsequently lost playtime.

My great thanks to Dr. Dean Nowoweijski, as both my thesis chair and the Ike Skelton Chair for the Art of War Scholars, for providing guidance and, most importantly, encouragement throughout the process. The support and feedback of my additional committee members, Dr. David Holden and LTC Jim Ballard, was truly instrumental.

I thank my peers in the CGSC Class of 2020 Art of War Scholars cohort for supporting the peer review process, providing encouragement towards thesis completion, and stimulating intellectual and professional growth throughout the Art of War Scholars Program.

Last, certainly not least, I thank the archives and staff that made my research possible. The Combined Arms Research Library Archives and Mr. Russel "Rusty" Rafforty at Fort Leavenworth, KS, provided a wealth of information while the scope of my thesis was in constant flux. The U.S. Army Heritage and Education Center (AHEC) Archives at Carlisle, PA, provided access to excellent, targeted primary sources, especially the Foreign Military Studies series. I specifically thank COL (Ret.) Jim Scudieri, the Director of the Military History Institute, for the investment of his time and efforts to aid and refine my research efforts at AHEC. The off-site archival research would not have been possible without the continued support provided by CGSC, the Dean, Deputy Commandant, and CAC Commander to the Art of War Scholars Program.

v

TABLE OF CONTENTS

Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE iii
ABSTRACTiv
ACKNOWLEDGMENTSv
TABLE OF CONTENTS
ACRONYMS
ILLUSTRATIONS ix
CHAPTER 1 INTRODUCTION1
Proposed Research Question3Supporting Research Questions4Case Study4LSCO5Principles of Multinational Operations5Command Structure7Operational Success10Limitations11Further Delimitations11Summary12
CHAPTER 2 HISTORIOGRAPHY
Doctrine13Unique Principles of Multinational Operations15Case Study Sources17Sources Facilitating Chronology17Sources Facilitating Analysis21Summary23
CHAPTER 3 NORTH AFRICA IN CONTEXT
The Preface: 1940-194125Opening Moves: January to April 1942341942 Strategic Objectives37Commonwealth Strategy37Axis Strategy39Summary41

CHAPTER 4 NORTH AFRICA, 26 MAY - 1 JULY 1942	42
Operational Planning	
The Assault, 26-27 May 1942	
Fighting between Gazala and Tobruk, 28 May – 17 June 1942	
Tobruk: 20-22 June 1942	
Impacts on Operations and Strategy	
CHAPTER 5 ANALYSIS OF MULTINATIONAL INTEROPERABILITY	74
Unity of Effort	75
Human	
Procedural	
Technical	
Summary of Impacts	
Freedom of Action	
Human	
Procedural	
Technical	
Summary of Impacts	
Flexibility	
Human	
Procedural	
Technical	
Summary of Impacts	
Initiative	
Human	
Procedural	
Technical	
Summary of Impacts	
Maintenance of Morale	
Human	
Procedural	00
Technical	
Summary of Impact	
Conclusion	
CHAPTER 6 CONCLUSION AND RECOMMENDATIONS	104
Multinational Interoperability at the Operational Level	104
Recommendations for Further Study	
GLOSSARY	108
APPENDIX A PROMINENT PERSONS IN THE CASE STUDY	109
BIBLIOGRAPHY	110

ACRONYMS

AJP	Allied Joint Publication
DAK	Deutsche Afrika Korps
FM	Field Manual
LNO	Liaison Officer
LSCO	Large-Scale Combat Operations
JP	Joint Publication
NAT	North African Theater
NATO	North Atlantic Treaty Organization
U.S.	United States

ILLUSTRATIONS

Page
Figure 1. Strategic and Operational Task Organization10
Figure 2. Graziani's Advance and Wavell's Offensive
Figure 3. Rommel's First Offensive
Figure 4. Operation Crusader
Figure 5. Gazala Defenses
Figure 6. Eighth Army Task Organization, May 194243
Figure 7. Eighth Army Disposition, May 194245
Figure 8. Panzer Army Africa Task Organization, May 194247
Figure 9. Plan for the Assault on the Gazala Line
Figure 10. Panzer Army Africa Attacks, 26-27 May 1942
Figure 11. Breakout from the Cauldron, 12-13 June 194260
Figure 12. Auchinleck's Proposed Acroma-El Adam Line62
Figure 13. Attack against El Adam and Sidi Rezegh64
Figure 14. Tobruk Defenses, Dawn on 20 June
Figure 15. Rommel's Plan for Tobruk, 17 June
Figure 16. Panzer Army Africa Attack, 20 June

CHAPTER 1

INTRODUCTION

The United States (U.S.) government historically forms multinational alliances or coalitions before engaging in armed conflict or war. The French assisted the U.S. to gain independence during the Revolutionary War. Native American tribes allied with the United States during the War of 1812. The U.S. allied with the United Kingdom, France, and others in World Wars I and II. There are only two exceptions to the U.S. waging war alongside multinational partners: the Mexican-American War and the American Civil War. The multinational aspect of the U.S. way of war continues into the foreseeable future with the U.S. training and fighting alongside the North Atlantic Treaty Organization (NATO), the Republic of Korea, Japan, and other allies and partners.

NATO's multinational warfighting concept requires interoperability at the strategic, operational, and tactical levels of war. Strategic interoperability requires longterm alignment of national interests. NATO's invocation of Article V, which stipulates that an attack on one ally in Europe or North America constitutes an attack on all, is one possible means to demonstrate strategic interoperability. Other means to demonstrate strategic interoperability include coalition forming and lend-lease programs such as the U.S. and Russia executed during World War II.

At the tactical level, the United States and NATO Allies habitually train multinational interoperability through exercises such as SABER STRIKE, COMBINED RESOLVE, and SWIFT RESPONSE.¹ NATO's Allied Land Command maintains nine

¹ Saber Strike, Combined Resolve, and Swift Response are multinational exercises hosted by 7th Army Training Command. Saber Strike and Swift Response are

multinational corps headquarters. Just as U.S. Army Corps, these multinational corps headquarters conduct tactical operations. The Allied Land Command serves as NATO's land services component command, fulfilling Title 10-like responsibilities of "readiness, interoperability, standardization, and competency."² Ultimately, Joint Force Commands at Brunssum, Naples, and Norfolk serve as the operational-level headquarters within the alliance.³

The operational level of land warfare is experiencing a renaissance in the U.S. Army following nearly two decades of protracted counterinsurgency that exerted an overwhelming influence on doctrine. Recent doctrinal changes, published in July 2019, account for the resurgence of threats capable of engaging the U.S. and its allies in largescale combat operations (LSCO). The Army recently added to add a fourth active-duty corps headquarters, and significant debate exists over establishing additional field army headquarters versus augmenting existing theater armies and Army Service Component Commands.⁴

annual exercises that stress multinational tactical operations at the Division level and below. Combined Resolve is a semi-annual exercise that stress multinational tactical operations at the Brigade level and below.

² North Atlantic Treaty Organization (NATO), "Allied Land Command - Mission," accessed October 27, 2019, https://lc.nato.int/about-us/mission.

³ Supreme Headquarters Allied Powers Europe, "Military Command Structure," accessed April 29, 2020, https://shape.nato.int/military_command_structure.

⁴ There is one standing U.S. Field Army, the Eighth Army, permanently located in South Korea. Regarding its U.S. force structure, it is essentially a Corps-level headquarters: three-star headquarters with direct subordinate unit as a division (2nd Infantry Division) with no permanently assigned U.S. maneuver combat power.

In U.S. Army doctrine, the Corps serves as a Joint Task Force or Joint Force Land Component Command to fill the operational-level headquarters role, requiring significant augmentation. The ability of the U.S. Army Corps to coherently train the immediate headquarters and subordinate headquarters and forces is limited because all four Corps headquarters are based in the United States, besides a forward element of V Corps. With just over a division of combat arms forward stationed throughout the world in foreign countries, the force of tactical-level combined arms units to train regularly on multinational interoperability is one Infantry Brigade Combat Team, one Stryker Brigade Combat Team, and three regionally aligned, rotating Armored Brigade Combat Teams. Thus, the ability to coherently train interoperability at the operational and tactical levels across the total force is fleeting, creating a lack of understanding of multinational effects at the given levels of war.

The increased probability of LSCO due to the growth of peer threats coupled with the U.S.'s multinational approach to war makes a study of the unique principles of multinational operations at the operational level of war appropriate, especially concerning a headquarters with similar roles and responsibilities as a field army.

Proposed Research Question

How do the principles of multinational operations impact operational success at the field army level during LSCO?

Supporting Research Questions

How do the principles of multinational operations impact operational success at the Field Army level during LSCO as experienced by the Germans and Italians in the North African Theater (NAT) of World War II from May to July 1942?

What operational obstacles did the Panzer Army Afrika experience? How were they tied to interoperability?

What was the German perspective on strategic and operational issues? How did their perspective aid or inhibit multinational interoperability?

What was the Italian perspective on strategic and operational issues? How did their perspective aid or inhibit multinational interoperability?

Answers to these questions contribute to the doctrinal body of knowledge of multinational operations. Currently, the *NATO Standard*, the Department of Defense *Multinational Operations* manual, and the Department of the Army *Multinational Operations* manual do not delve into the interoperability domains or principles of multinational operations beyond conceptual depth. A complete study of interoperability's impact on operational success in LSCO will enable future multinational approaches to employment of the military instrument of national power.

Case Study

For the case study of NAT Operations to inform future approaches to multinational war and warfare, it is worth clarifying the unique nature of the Panzer Army Africa that is parallel to the character of future U.S. Army multinational warfare. First, operations in the NAT must meet the U.S. Army's definition of LSCO. Second, the requirement to accurately separate the unique principles of multinational operations from the principles of war to inform the analysis framework. Third, identification of the command structure utilized by Panzer Army Africa and its applicability to future conflict for the U.S. Army determined. Lastly, the case study calls for the establishment of a period the Panzer Army Africa experienced success at the operational level of war.

LSCO

The U.S. Army defines LSCO as "extensive joint combat operations in terms of scope and size of forces committed, conducted as a campaign aimed at achieving operational and strategic objectives."⁵ Both the British Commonwealth and the Axis Powers maintained a Field Army, enabled by their respective air forces, and supported by their naval and air forces in the NAT from 1941-1942. This facet of NAT operations meets the requirements imposed by the first half of LSCO's definition. Both hostile forces arranged campaigns using operational objectives to destroy the opposing forces and attain the strategic goal of sole control of North Africa, and more explicitly secure control over the Suez Canal. This arrangement of operational objectives into a campaign to achieve strategic goals satisfies the requirements of the second half of LSCO's definition. Thus, operations in the NAT meet the definition of LSCO.

Principles of Multinational Operations

To study what is unique about multinational execution of LSCO, we must isolate what is unique about multinational operations from what is inherent in joint operations. The Department of Defense lists the Principles of Joint Operations as objective, offense,

⁵ Headquarters, Department of the Army (HQDA), Army Doctrinal Publication (ADP) 3-0, *Operations* (Washington, DC: Army Publishing Directorate, 2019), 1-5.

mass, maneuver, economy of force, unity of command, security, surprise, simplicity, restraint, perseverance, and legitimacy.⁶ NATO lists the characteristics of multinational operations as legitimacy, multinationality, and perseverance. NATO further lists the principles of multinational operations as unity of effort, concentration of force, economy of effort, freedom of action, definition of objectives, flexibility, initiative, offensive spirit, surprise, security, simplicity, and maintenance of morale.⁷ Identifying the unique aspects of multinational operations requires the removal of the duplicities between the Joint and Allied lists of principles and characteristics.

Two comparisons negate the repetitions of the Joint and Allied principles and characteristics. First, a comparison of direct terminology finds legitimacy, perseverance, surprise, security, and simplicity as the same principles and characteristics. Removing these reduce the list of principles under consideration to multinationality, unity of effort, concentration of force, economy of effort, freedom of action, definition of objectives, flexibility, initiative, offensive spirit, and maintenance of morale. A second comparison between definitions of similar terms determines that concentration of force, economy of effort, definition of objectives, and offensive spirit are not unique (see Chapter 2). These two comparisons focused on the principles of multinational operations to those that are unique.

⁶ U.S. Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: Joint Chiefs of Staff, 2018), I-2.

⁷ North Atlantic Treaty Organization (NATO), Allied Joint Publication (AJP)-01, *Allied Joint Doctrine* (Brussels: NATO Standardization Office, 2017), 1-12 – 1-14.

The characteristics and principles of multinationality, unity of effort, freedom of action, flexibility, initiative, and maintenance of morale remain as unique to multinational operations. Multinationality is a characteristic of, therefore inherent to, multinational operations. Thus, an in-depth analysis is not required to determine that two countries' armed forces are conducting operations as part of a coalition or alliance. The five unique principles of multinational operations, unity of effort, freedom of action, flexibility, initiative, and maintenance of morale, provide an analysis framework for Panzer Army Africa's operations.

Command Structure

Multinational operations bring unique challenges in preparation, planning, and execution that exponentially increase the complexity associated with achieving the military end state and associated objectives. There are several aspects of multinational formation. The most crucial factor in reducing these challenges is the command structure. There are three types of command structures employed in multinational formations: integrated, parallel, and lead nation.

Integrated command structures are the ideal command structure for multinational operations. Integrated command structures have a single commander from a member nation, a staff composed of members from all countries, and subordinate commands integrated to the lowest echelon necessary to accomplish the mission.⁸ An integrated command structure requires complete interoperability from individuals and organizations

⁸ U.S. Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-16, *Multinational Operations* (Washington, DC: Joint Chiefs of Staff, 2019), II-5.

at echelon, but produce true unity of effort. NATO's Joint Forces Commands Brunssum and Naples are examples of integrated multinational command structures. The U.S. Army's ability to train the total force to achieve high-level interoperability with allies and partners globally is constrained by resources, limiting the viability to implement an integrated command structure during LSCO. Additionally, an integrated multinational command structure requires either a treaty or a multinational agreement.

Parallel command structures require the least amount of interoperability between nations. Parallel command structures do not possess a single commander. Instead, each nation's forces operate within their standing national command structures and use close coordination to synchronize efforts.⁹ The limitations and flaws of a parallel command structure do not allow for a genuinely united approach to achieving the military end state. The Egyptian-Syrian coalition that attacked Israel in 1973 employed a parallel command structure, with each nation controlling their forces on the southern and northern fronts, respectively. Poor coordination and a lack of mutual support contributed to their defeat.¹⁰ Implementation of a parallel command structure detrimentally impacts the achievement of the military end state during LSCO.

Lead nation command structures, while imperfect, address the weaknesses associated with a parallel structure while maintaining some of the strengths associated with an integrated structure. Lead nation command structures have a single commander

⁹ JCS, JP 3-16, II-7.

¹⁰ George W. Gawrych, *The 1973 Arab-Israeli War : The Albatross of Decisive Victory*, Leavenworth Papers Number 21 (Fort Leavenworth, KS: U.S. Army Command and General Staff College, Combat Studies Institute, 1996).

and headquarters from the lead nation, while all subordinate units and staffs maintain strict national integrity.¹¹ The lead nation structure allows for but does not require, multinational integration of the single commander's immediate staff. The single commander, while responsible for achieving multiple states' political objectives, provides a singular vision for the attainment of the military end-state. NATO's Multinational Division Southeast utilizes an approach to the lead nation structure called "framework," in which Romania provides the commander and majority of the staff that is augmented by other NATO member countries.¹² Implementation of the lead nation command structure does not require significant training impetus or resources beyond those committed to maintain a combat-credible unilateral force. Thus, the lead nation command structure is the most viable in LSCO.

The Axis employed a unique blend of the lead nation and parallel command structures in the NAT. The Italians performed lead nation command and control at the strategic level in the Mediterranean to control operations. The Germans provided the lead nation command of land forces at the operational level, although Italy provided the bulk of the land forces. This arrangement of multinational control was deemed appropriate given Italy had more to lose than Germany as the only colonial power in North Africa in the Axis. However, the German political and theater leaders retained the ability to command their national forces. This control exerted undue influence on theater strategy and the operational level throughout the campaign in North Africa, primarily because of

¹¹ JCS, JP 3-16, II-6.

¹² MNDSE Romania, "Multinational Division Southeast," accessed April 29, 2020, http://www.en.mndse.ro/.

Germany's relative diplomatic and military strength as the overall lead nation in the Axis alliance on continental Europe.¹³

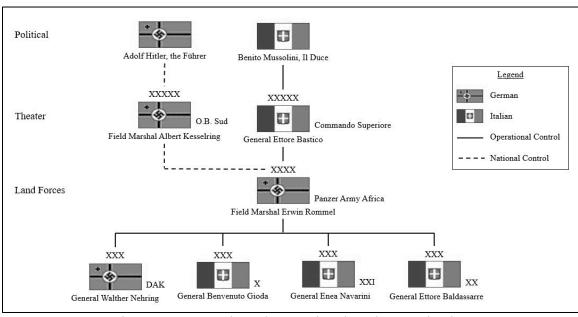


Figure 1. Strategic and Operational Task Organization

Source: Author created.

Operational Success

Focusing the case study period on an operational-level success allows for closer examination of the impacts of multinational interoperability. The period of operations from 26 May to 21 June 1942 is a resounding success for Panzer Army Africa, as Chapter 4 will detail. Primary sources specific to the period of operations in conjunction with the

¹³ Jack Greene, Alessandro Massignani, and Ulrich Blennemann, *Mare Nostrum*, 2nd ed. (Watsonville: Typesetting, etc., 1990), 30-33.

current understanding of German and Italian capabilities allow for a detailed analysis of multinational interoperability's role in that success.

Limitations

Two limitations impact the conduct of research to enable meaningful analysis and conclusions. The first is that the research and writing period is limited to approximately nine months. Second, and most significantly, the author does not have any proficiency with the Italian language and, therefore, must rely on English secondary sources to capture relevant Italian perspective on the events of the case study.

Further Delimitations

There are three primary delimitations on the case study and research worth explaining. First, the research and case study is primarily concerned with Rommel's span of control as commander of the Panzer Army Africa and the interoperability of landpower employed in operations. This narrowed scope prevents joint issues from clouding the analysis of multinational interoperability. Second, although North Africa ended in strategic failure for the Axis, the case study and analysis will focus on the operational success of the chosen period within the context of operations conducted in 1940 through early 1942, as highlighted in Chapter 3. Maintaining the context of events within the Panzer Army Africa's experience avoids any counterfactual aspects to an analysis of multinational interoperability. Lastly, the analysis of multinational interoperability provided in Chapter 5 is not by U.S. Army Warfighting Function. While the Warfighting Functions give a framework to plan, execute, and assess operations, the framework detracts from the emphasis on multinational interoperability. These delimitations taken together focus the analysis of Panzer Army Africa's operational success on multinational interoperability, which provides an answer to the primary research question.

<u>Summary</u>

Multinationality is a crucial attribute to the American Way of War. The U.S. Army, charged to fight and win the nation's wars, is transitioning doctrinal focus from limited counterinsurgency operations to LSCO, and accordingly shifting the emphasis of formation employment from modular brigades to multiple corps and division. A thorough analysis of Panzer Army Africa's multinational operational success and careful extrapolation reveals critical aspects of multinational interoperability's influence on operational-level success.

CHAPTER 2

HISTORIOGRAPHY

The use of a single historical case study to determine the impact of multinational interoperability on operational success requires caution. The single case study allowed for in-depth research, yet extrapolating lessons from a single point of reference is dangerous if done incorrectly. A three-phased approach to research occurred. The first phase reviewed current multinational operations doctrine and developed an analysis framework. The second phase reviewed secondary sources to understand the events of the NAT in 1942. The last stage consisted of primary and secondary source research to gain insights into the multinational challenges and solutions of Panzer Army Africa.

Doctrine

The seminal NATO doctrine for multinational operations is the Allied Joint Publication (AJP)-01, *Allied Joint Doctrine*, which gives clear definitions of the characteristics and principles of multinational operations and outlines the multinational interoperability domains. The principles of multinational operations are unity of effort, concentration of force, economy of effort, freedom of action, definition of objectives, flexibility, initiative, offensive spirit, surprise, security, simplicity, and maintenance of morale. The interoperability domains are human, technical, and procedural. The domains provide a means to categorize interoperability efforts across the principles of multinational operations. AJP-01 provides an understanding of NATO's approach to multinational operations but is written with the strategic level in mind. AJP-3, *Allied Joint Doctrine for the Conduct of Operations*, is central to understanding the operational level in a multinational environment. This publication expands the fundamental understanding created in the AJP-01 by providing an approach to command, conduct, and synchronization of multinational operations. AJP-3 defines the operational level as "the level at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theatres or areas of operations.".¹⁴ AJP-3 also emphasizes integration and synergy as crucial at the operational level. These two NATO doctrinal publications give a thorough understanding of the strategic and operational level considerations for multinational operations.

Both U.S. Joint and Army doctrine capture the American perspective on multinational operations. In the doctrinal hierarchy, joint doctrine supersedes army doctrine. Joint Publication (JP) 3-16, *Multinational Operations*, is the seminal joint doctrinal publication for multinational considerations. The second chapter of JP 3-16 details the various possible command structures that exist for multinational organizations. Additionally, in Appendix A to JP 3-16 reduces operational-level multinational interoperability to a checklist. The checklist focuses on the procedural domain, acknowledges the human domain, and fails to address the technical domain of interoperability. The reduction of interoperability to a list belies the many important intangible aspects of interoperability, such as maintenance of morale.

¹⁴ North Atlantic Treaty Organization (NATO), Allied Joint Publication-3, *Allied Joint Doctrine for the Conduct of Operations* (Brussels: NATO Standardization Office, 2019), 1-1.

In this regard, the U.S. Army doctrine fairs no better. The Department of the Army's Field Manual (FM) 3-16, *Multinational Operations*, is the only U.S. Army doctrine solely focused on operations in a multinational environment and is appropriately nested with JP 3-16. FM 3-16 outlines considerations for multinational operations through warfighting functions and enabling functions, facilitating a better understanding for staff officers. Additionally, FM 3-16 provides supplementary multinational operations checklists, with similar interoperability domain focus as JP 3-16. The joint and army doctrines, written at the height of the Global War on Terror, provide the American perspective to successful multinational operations.

NATO and the U.S. need to reevaluate successful multinational operations within the context of LSCO after almost two decades of counterinsurgency operations in Afghanistan and contingency operations elsewhere. Although counterinsurgency and contingency operations remain the most probable future use of military force, the severe consequences of LSCO demand the review of multinational operations doctrine. Examining a multinational army in the large-scale combat of World War II through the lens of the unique principles of multinational operations is a start to this daunting task.

Unique Principles of Multinational Operations

The AJP 01 lists and defines the principles of multinational operations. Refinement of those principles using JP 3-0, *Joint Operations*, produces principles that are unique to multinational operations. As discussed in Chapter 1, this requires comparing the definitions of principles to the principles of joint operations, and the associated definitions, found in JP 3-0.¹⁵ The remaining principles of multinational operations that have no correlating joint principle are considered unique to multinational operations.

There are five unique principles of multinational operations: Unity of Effort, Freedom of Action, Flexibility, Initiative, and Maintenance of Morale. Unity of Effort ensures "all means are directed to a common goal."¹⁶ Freedom of Action empowers commanders to carry out their designated missions while minimizing restrictions..¹⁷ Flexibility has dual meanings. The first meaning is the ability to adapt plans and procedures to unexpected circumstances..¹⁸ The second meaning is enabling commanders through maximum freedom of action..¹⁹ Initiative is the ability of commanders at all levels to recognize and seize opportunities.²⁰ Maintenance of morale is critical to operational success; morale depends on "leadership, determination, respect, and care for the personnel under command.".²¹ The combination of these five principles forms the basis of the analysis framework.

- ¹⁵ JCS, JP 3-0, A-1 A-4.
- ¹⁶ NATO, AJP-01, 1-13.
- ¹⁷ Ibid., 1-14.
- ¹⁸ Ibid.
- ¹⁹ Ibid.
- ²⁰ Ibid.

²¹ Ibid.

Overlaying the interoperability domains on the unique principles completes the analysis framework. The domain-specific elements of each principle provide a structure that deepens the understanding of multinational interoperability's impact on operational success. It does this by considering the implications of the human, procedural, and technical aspects of Panzer Army Africa's operations.

Case Study Sources

Primary and secondary sources are integral to the historiography of the case study and the analysis of multinational interoperability within Panzer Army Africa. Given the extensive research of combat operations in the NAT, secondary sources will principally provide the chronology and events of the case study. Given the limited investigation of the multinational interoperability of Panzer Army Africa, analysis is to be conducted through the examination and comparison of English and German primary sources conveying the German perspective in conjunction with English secondary sources giving the Italian view.

Sources Facilitating Chronology

Secondary sources inform the broader understanding of the NAT from the opening of the theater in 1940 to completion of the Panzer Army Africa's Spring offensive campaign in May 1942. While the NAT is the subject of a plethora of publications, five sources contribute to understanding the combat actions in the NAT: William G. F. Jackson's *The Battle for North Africa 1940-43*, Robert M. Citino's *Death of the Wehrmacht: The German Campaigns of 1942*, Reinhard Stumpf's "The War in the Mediterranean Area 1942-1943" in *The Global War*, and Samuel W. Mitcham's *Rommel's Greatest Victory: The Desert Fox and the Fall of Tobruk, Spring 1942.* These works primarily approach the NAT from the vantage of the German's while acknowledging limited contributions from Italy's war effort.

The Italian perspective of the NAT is imperative to a comprehensive understanding of Panzer Army Africa's operations. Jack Greene and Alessandro Massignani's *Rommel's North Africa Campaign* provide a well-balanced account that incorporates significant perspective from Italian primary sources. James J. Sadkovich's "Of Myths and Men: Rommel and the Italians in North Africa: 1940-1942" provides a counter-narrative to Panzer Army Africa's emphasizing the impact of the Italians on the NAT. The Italian perspective completes the understanding of Panzer Army Africa's operations and efforts towards multinational interoperability.

The Battle for North Africa 1940-43 provides a detailed account of the Axis, Commonwealth, and later Allied campaigns in NAT. Although writing from the British perspective, General Sir William Jackson approaches the North African campaign holistically, from theater opening in 1940 to the eventual Allied victory in 1943. Jackson does this by incorporating varying narratives at brigade echelon and above from the other major belligerent parties: German, South African, Australian, and American. Jackson includes a very lengthy chapter on the exact period of the case study, May to July 1942, entitled 'The High Water of German Professionalism.' The importance of this work is the author - Jackson, as a veteran of the Tunisian campaign in the NAT, provides an interpretation of the entire war in North Africa as recent history.

While writing from a broader perspective than Jackson, Citino focuses on the repercussions of various strategic decisions and resulting operational and tactical crises in

Death of the Wehrmacht: The German Campaigns of 1942. Citino gives a critical review of Rommel and the 1941 Axis North African Campaign. While crediting and examining Rommel's success in 1942, Citino widens the aperture to illustrate the effects this success had on the Mediterranean and broader Axis war efforts. Citino argues that North Africa drained resources that were not necessarily in Germany's strategic interests, Rommel's victory successfully derailed the NAT theater strategy, creating a long-term lack of concentration on the Russian front. Citino's strategic German perspective provides a context that other works address limitedly.

Reinhard Stumpf wrote the conclusive German perspective NAT operations in 1942 and 1943 under the auspices of the Research Institute for Military History in Potsdam, Germany. Often addressing the minutia of battalion tactical actions, the work also captures operational and strategic moves by both the Axis and Commonwealth. The chapter also provides detailed maps of division and brigade locations in addition to fantastic campaign maps. While not the official German history of the North African campaigns in 1942 and 1943, Stumpf's extremely detailed work fills the void of an official account of the North African campaign that will never exist.

Mitcham provides seemingly the least biased account in *Rommel's Greatest Victory: The Desert Fox and the Fall of Tobruk, Spring 1942.* It provides strategic and operational insights to NAT and the resulting tactical actions of both the Axis coalition and the British Commonwealth, rarely going outside of the theater if there is no direct cause-effect impact to examine. Mitcham provides a general overview of operations before 1942, sets a strategic stage, and delves into detail while covering operations from May to June, ending with the seizure of Tobruk. Mitcham's work is significant because of the focus on the period of combat relevant to the case study from a perspective uncolored by a specific national vantage.

Jack Greene and Alessandro Massignani coauthored *Rommel's North Africa Campaign*, incorporating the relevant Italian perspective previous works omitted. The book provides a particularly objective account of operations in North Africa. Especially interesting are the additional vantage points offered by Italian primary sources. The extremely detailed, tactically oriented asides within the text can detract from appraising the operational and strategic levels of war in the NAT. While Greene and Massignani's history is not revisionist, it adds depth to present works by better explaining Italian perceptions, capabilities, and actions.

Countering the limited acknowledgment that most previous works give the Italian war effort, Sadkovich provides unique insights into the significant contributions of the Italian war effort at the operational and tactical levels. In an article written for *Military History Quarterly*, he vilifies Rommel as an incompetent commander, claims that German contributions to the NAT were minimal, and justifies Italian efforts in the theater as equal to or greater than their Axis ally. Sadkovich is among the first scholars to reexamine the Italian army's World War II reputation gained from their 1940 defeat in North Africa. Specifically, Sadkovich claims that Italian technology, fighting spirit, and officer corps were equivalent to that of the Germans and British Commonwealth for most of the NAT campaign. Without this work, the study and examination of Panzer Army Africa would be extremely one-sided and likely reinforce the image of the Wehrmacht's disabled partner.

20

The holistic appraisal of Rommel's second offensive in May through June 1942 is necessary before beginning any analysis of the multinational interoperability efforts of Panzer Army Africa. The works described above coalesce into a refined picture of the case study period at the strategic, operational, and tactical levels incorporating German, Italian, and British perspectives. The comprehensive portrayal of events provides an initial outline of Panzer Army Africa's multinationality interoperability efforts.

Sources Facilitating Analysis

Primary source research aids in establishing interoperability practices, challenges, and solutions in Panzer Army Africa during the period of the case study. The Foreign Military Studies series accumulated by United States Army Europe utilizing the writings of captured, and eventually paid Wehrmacht general officers, immediately following World War II provide the bulk of primary sources. One of Rommel's division commanders, Albert Kesselring, and a report endorsed by many of his subordinates are among these extremely beneficial sources. Overt racism and the constant need of the German generals to find scapegoats for their World War II failures mar the reports. However, Foreign Military Studies do provide unique insights into German interoperability efforts of the Panzer Army Africa.

Rommel's death by forced suicide in 1944 precluded his participation in the Foreign Military Studies. However, Rommel's translated war diary, *The Rommel Papers* edited by B.H. Liddell-Hart, provide personal insights of the operational-level commander into the campaign and various interoperability challenges and solutions. At multiple points, Liddell-Hart, as editor, provides corrections to which elements of the Eighth Army Rommel's army fought and adds context Rommel either did not know or regarded as unimportant. However, both *The Rommel Papers* and Foreign Military Studies lack the Italian perspective.

Three secondary sources provide valuable insights to Italian capabilities and perceptions of interoperability efforts: Richard Carrier's "Some Reflections on the Fighting Power of the Italian Army in North Africa, 1940-43" in the *War In History* journal, Bastian Scianna's "Rommel Almighty? Italian Assessments of the 'Desert Fox' during and after the Second World War" in *The Journal of Military History*, and McGregor Knox's "Italian Armed Forces 1940-43" chapter of *On the Effectiveness of Military Institutions, Volume III.* These works convey different aspects of the Italian Army and their perceptions of Panzer Army Africa's actions.

Carrier's article focuses on the evolution of the Italian Army's capability and capacity in the first half of World War II. The discussion mainly focuses on weapons and training developments, arguing that weapons improved substantially throughout the war and highlighting German impacts on training. Germans impacted training through information sharing and demonstrating the utility of combined arms teams. Carrier asserts that Italian soldiers and units adapted and increased efficiency throughout the war as a direct result. Carrier's article demonstrates the positive impact of the Wehrmacht on the Italian army during multinational operations in North Africa.

Scianna's article provides numerous Italian officers' opinions of Rommel as the commander of the multinational Panzer Army Africa. In general, the Italian point of view has largely been ignored and discounted in Anglo-American studies of Rommel and the broader war effort. Scianna delivers this view by analyzing various primary materials, especially secret recordings of Italian prisoners of war in British custody. The materials provide mixed opinions of Rommel and highlight the challenges of multinational command from the vantage of a non-lead nation.

Lastly, Knox provides a lengthy, in-depth analysis of the Italian army, air force, and navy of World War II at the strategic, operational, and tactical levels. Importantly, Knox, using a variety of primary sources, discusses the impacts of combined operations with the Germans in North Africa, the Balkans, and on the Russian front on the Italian Army. His work includes discussions of efforts towards cooperation at the operational and tactical levels in North Africa and elsewhere. Knox's work provides an Italian perspective on multinational interoperability challenges and solutions absent in other sources.

The amalgamation of German and Italian perspectives on combined warfare in North Africa enables analysis of interoperability's effects on Panzer Army Africa's operations. The German primary sources document interoperability efforts of a lead nation and commander fighting alongside a perceived inferior nation's army and the frustrations inherent in multinational operations. Secondary sources from the Italian vantage document an improving army feeling distrusted and, at times, mistreated. A thorough examination of Panzer Army Africa's interoperability is only possible by combining the two.

Summary Summary

The review of these sources delivers three critical benefits to the case study. First, NATO and U.S. joint and Army doctrine provide a framework to assess the multinational interoperability efforts of Panzer Army Africa. Secondly, the union of detailed works on the NAT from 1940 to 1942 provide the context necessary to analyze those efforts. Lastly, German and Italian perspectives on the mechanisms and conduct of operations allow for analysis of the multinational interoperability efforts of Panzer Army Africa. In turn, the case study adds to the current body of knowledge on Panzer Army Africa and multinational interoperability's effects on operational success.

An in-depth study of German-Italian cooperation's effects on the success of Rommel's second offensive has not occurred after the reexamination of Italy's World War II army that began at the turn of the twenty-first century. This research builds explicitly on the works of Richard Carrier and Bastian Scianna to produce a comprehensive study of German-Italian interoperability in North Africa in the limited time frame of May to June 1942. The original analysis of interoperability efforts between two competent and capable armies allows for extrapolation and application to modern multinational large-scale combat.

CHAPTER 3

NORTH AFRICA IN CONTEXT

The Preface: 1940-1941

World War II spread to North Africa with Italy's 1940 decision to invade the British Commonwealth's Egypt holdings, to control the Suez Canal. Mussolini, also known as el Duce, came to this decision because of the fortuitous alignment of several circumstances. First, the war in North Africa no longer required a two-front endeavor from the Italian perspective. Second, the immediate situation within the NAT was beyond favorable to the Italians, making the prospect of war one-sided, and victory all but assured. Lastly, by combining the previous factors, Mussolini judged the strategic objective achievable without involving the other Axis powers.

Recently disappointed with the lack of territorial concessions from France, Mussolini associated success in North Africa to increased inter-Axis standing and bargaining power. Mussolini declared war on the French and British on 10 June 1940, just eleven days before France fell.²² Due to the late entry and any substantive assistance in defeating France, Hitler denied most of the concessions Italy sought from France in favor of the Vichy French government. By gaining control of the Suez Canal, and a secured avenue to the oil fields beyond, el Duce hoped to offer the Führer access to the

²² Samuel Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 2.

two most critical factors in World War II: shipping and oil.²³ Mussolini, interpreting the North African operating environment as favorable, thought these goals attainable.

The French colonies in western North Africa were under the control of the Vichy French government, a political body that surrendered to Nazi demands in France to retain some semblance of semi-autonomous power. A pro-Axis government to the west alleviated the Italian colonies of Tunis and Libya, located in central North Africa, of defending against fighting a two-front war. The presence of the Vichy French government allowed Mussolini's forces in North Africa to focus on the only remaining immediate threat: the British Commonwealth colony of Egypt and with it the prized Suez Canal.

Pre-occupied with defending the homeland from a Nazi invasion, the Commonwealth did not heavily invest in the defense in the unopened theater of North Africa. The British Western Desert Force, later to become the XIII Corps, consisted of two incomplete and understaffed divisions, the 7th Armored and 4th Indian Divisions, totaling approximately 30,000 combat effective soldiers..²⁴ Commonwealth strength compared unfavorably to the 250,00 Italian soldiers available in Libya, with another 300,000 (mostly native) soldiers in nearby East Africa as a ready theater reserve..²⁵

²³ W.G.F. Jackson, *The Battle for North Africa* (New York: Mason/Charter, 1975), 20.

²⁴ Mitcham, Rommel's Greatest Victory, 3.

²⁵ Ibid.

commence the attack as "he outnumbered the British forces in the Western Desert almost ten to one."²⁶

Marshall Graziani, however, understood the 1940 Italian Army for what it was. While numerically superior, the Western Desert Force outclassed the Italian Army in almost every other measurable factor in North Africa. The Italian army's rifles dated from World War I, it lacked the requisite numbers of artillery and anti-tank guns, and it was one of the least mobile forces in Europe.²⁷ Although the Italian Army had experimented with 'guerra lampo' (lighting war) and developed a substantial doctrine for the employment of armored troops, the lack of organic mobility in Italian forces prevented its use in North Africa..²⁸ While these and other factors contributed to the hollow Italian Army, they did not impact Mussolini's decision making.

Therefore, after months of dragging his feet and under threat of removal from command, Graziani did attack in September 1940. The Italian Tenth Army reluctantly crossed 'the wire,' referencing an Italian built obstacle on the Libya-Egypt border, on 13 September.²⁹ On 16 September, the 1st Blackshirt Division reached the original limit of advance 65 miles into Egypt at Sidi Barrani. The Italian Army experienced no real friction of major engagements over those 96 hours, stopping instead to rest, stockpile

²⁹ Jackson, *The Battle for North Africa*, 34.

²⁶ Mitcham, Rommel's Greatest Victory, 3.

²⁷ Ibid.

²⁸ James Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942," *The International History Review* 13, no. 2 (1991): 288.

supplies, and erect defensive positions.³⁰ The result: the Italians ceded the initiative to the British at every level of war, never to advance further into Egypt without assistance from the Germans.

The British response to the soft invasion of Egypt was overwhelming, although long in the making. The British response began almost three full months after the Italian incursion into Egypt. General Sir Archibold Wavell, the British Commander in Chief, Middle East, advocated solving the Italian North Africa problem with an offensive campaign in August 1940. However, the British government could not support this approach before winning the Battle of Britain; thus, troops and material support began flowing in the autumn of 1940.³¹ The arrival of Matilda tanks on 15 October 1940 provided the British an armored vehicle impervious to any of the known Italian anti-tank weapons.³² With their entrance, Wavell directed the Western Desert Force to begin planning for a counter-offensive with emphasis on achieving surprise.³³

What initially began as a plan for a large-scale raid morphed into the British operational plan 'Compass.' It called for a small diversionary force thrusting along the North African coast straight towards Italian forces at Sidi Barrani. At the same time, the main attack of the Western Desert Force attacked from the southwest to remove Italian

³⁰ Mitcham, *Rommel's Greatest Victory*, 4.

³¹ Jackson, *The Battle for North Africa*, 37.

³² Ibid., 42.

³³ Ibid., 41.

troops from Egypt.³⁴ In extreme contrast to the adage that plans do not survive the first contact, the execution unfolded according to the 'Compass' design. The British caught the eastern-most Italian forces completely by surprise on 9 December 1940 and experienced unplanned success. Wavell then expanded the scope of 'Compass from a limited-objective offensive into a full-scale pursuit.³⁵

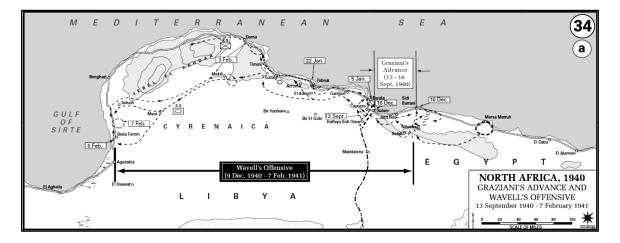


Figure 2. Graziani's Advance and Wavell's Offensive

Source: United States Military Academy, "North Africa, Graziani's Advance and Wavell's Offensive, 13 September 1940-7 February 1941," WWIIEurope34, accessed April 15, 2020, https://www.westpoint.edu/sites/default/files/inline-images/academics/ academic_departments/history/WWII Europe/WWIIEurope34.pdf.

Crossing the Libya-Egypt border on 16 December 1940, the Western Desert Force stopped at El Agheila, Libya, on 8 February 1941.³⁶ In just seven weeks, the British had

³⁶ Ibid., 7.

³⁴ Jackson, *The Battle for North Africa*, 51.

³⁵ Mitcham, Rommel's Greatest Victory, 5.

decimated the Italian Tenth Army in a rout that covered almost 900 kilometers. The victory included the capture of the critical ports of Benghazi and Tobruk, the latter of which was also a fortress city. Rommel would later observe that "[the] Italian troops had, with good reason, lost all confidence in their arms and acquired a very serious inferiority complex, which was to remain with them throughout the whole war..."³⁷ The rout cemented the German's, and indeed the world's, opinion of the Italian army.

The perceived impacts of a loss in North Africa on the Italian national psyche drove the German High Command's response to the British rout of the Italians. Hitler could not ignore the potential danger of a dozen British divisions freed for operations elsewhere in the Mediterranean, either..³⁸ Thus, at the behest of the Führer, the High Command formed the 'Deutsche Afrika Korps' (DAK) consisting of one Panzer and one Light division. Hitler placed Lieutenant General Erwin Rommel in command..³⁹

Rommel, characteristic of any Prussian-schooled officer, ignored orders of faraway superiors immediately upon his arrival on 13 February 1941. The German High Command ordered Rommel to await the arrival of the DAK in its entirety before commencing operations. Rommel deployed a reconnaissance effort on 16 February, received a portion of the Panzer Division at the beginning of March, and convinced the Italians to employ the Ariete Division (an Italian tank division) as the DAK's reserve the

³⁷ Erwin Rommel, *The Rommel Papers*, ed. B.H. Liddell-Hart, 15th ed. (New York: Da Capo Press, 1953), 97.

³⁸ Mitcham, *Rommel's Greatest Victory*, 9.

³⁹ Ronald Lewin, *The Life and Death of the Afrika Korps* (Ney York: Quadrangle/New York Times Book Co., 1977), 15.

same month. Rommel's daring culminated in a short, fierce, and successful attack on the British positions at El Agheila on 23 March.⁴⁰ By the end of March, Rommel removed the British from the last good blocking position to eastern Libya, proved the German troops capable of desert fighting, and demonstrated that Italian intelligence officers overestimated British combat power strength.⁴¹

These developments influenced Rommel's decision to continue with an offensive campaign of pursuit. Rommel set the DAK's offensive's objective as Tobruk and initiated a hasty attack against Tobruk on 14 April 1941.⁴² The DAK, under Rommel's leadership and with Ariete Division's assistance, recaptured over 700 kilometers of terrain just 22 days after initiating the attack on El Agheila.

⁴⁰ James Lucas, *Panzer Army Africa* (San Rafael: Presidio Press, 1978), 37.

⁴¹ Ibid., 38.

⁴² Ibid., 50.

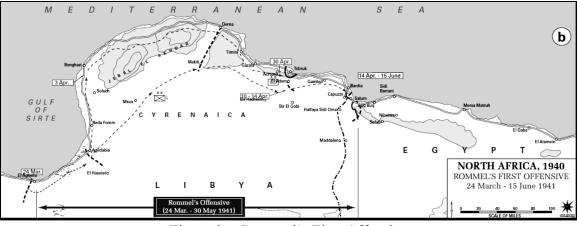


Figure 3. Rommel's First Offensive

Source: United States Military Academy, "North Africa, Graziani's Advance and Wavell's Offensive,13 September 1940-7 February 1941," WWIIEurope34, accessed April 15, 2020, https://www.westpoint.edu/sites/default/files/inline-images/academic_departments/history/WWIIEurope/WWIIEurope34.pdf.

The DAK's successful 1941 summer offensive propelled Rommel into command of the newly formed Panzer Group Africa. The Panzer Group consisted of the DAK, the X and XXI Italian Infantry Corps, and the 90th Light Infantry Division (DEU).⁴³ During the subsequent 242-day (almost eight months) siege of Tobruk, the British Eighth Army attempted two major relief efforts; both ended in their defeat at the hands of Rommel. The lack of British victories forced Churchill's hand into a leadership change, naming General Sir Claude Auchinleck as the new Commander in Chief, Middle East.

The siege and relief efforts were hampered on both sides, as the events of the broader battle for the Mediterranean impacted logistics of Panzer Group Africa and the British Eighth Army. In November of 1940, Auchinleck prompted General Cunningham,

⁴³ Mitcham, Rommel's Greatest Victory, 18.

commander of the Eighth Army, to initiate Operation 'Crusader.' The logistical situations of the two armies on 18 November, the day 'Crusader' started, could not have been more disparate. Successful Allied operations in the Mediterranean limited Rommel's on-hand supplies to just fifteen percent of those needed to fight and a combined 395 Axis tanks, with an additional 50 tanks under repair serving as a reserve. Meanwhile, the Eighth Army, fully supplied, attacked with 748 tanks, a reserve of 200 tanks, and 236 tanks en route to the NAT.⁴⁴

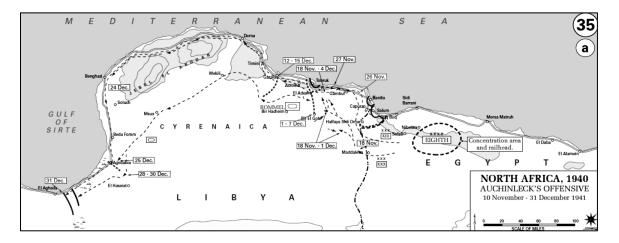


Figure 4. Operation Crusader

Source: United States Military Academy, "North Africa, Auchinleck's Offensive, 18 November-31 December 1941," WWIIEurope35, accessed April 15, 2020, https://www.westpoint.edu/sites/default/files/inline-images/academics/ academic departments/history/WWII Europe/WWIIEurope35.pdf.

The Eighth Army experienced operational success, preempting Rommel's

planned offensive and forcing Panzer Group Africa to retreat west across the Libyan

⁴⁴ Mitcham, Rommel's Greatest Victory, 20.

desert. There was a severe cost associated with success. Cunningham attacked with seemingly uncoordinated thrusts that Panzer Army Africa was able to defeat piecemeal. Rommel's extremely mistimed counterattack on 24 November, known as the 'Dash for the Wire,' resulted in a complete retreat.⁴⁵ Yet, when 'Crusader' ended on 2 December 1941, the Germans had lost at least 167 tanks and armored cars, the Italians had lost over 90 armored fighting vehicles, but the British had lost over 800 fighting vehicles!.⁴⁶ The cost of victory also included Cunningham's command. Auchinleck replaced Cunningham with General Sir Neil Ritchie as commander of the Eighth Army.

Rommel's actions in the NAT now contributed to the removal of both a British Commander in Chief, Middle East, and an Eight Army Commander in 1941. The turbulence inherent in changing commanders caused the British counteroffensive to stall leading as 1942 began. The Axis, especially Rommel, would not be idle while the Eighth Army consolidated its recent gains, and a new commander gained a sense for the situation and his unit.

Opening Moves: January to April 1942

As a 32 percent strength Panzer Group Africa retreated towards Tripolitania in January 1942, the British were confident in the delivery of a lethal stroke. Auchinleck reported to London that "indications of weakness and disintegration" of Axis forces were multiplying on 12 January.⁴⁷ The British used the first weeks of January to defeat trapped

⁴⁵ Jackson, *The Battle for North Africa*, 214.

⁴⁶ Lucas, *Panzer Army Africa*, 89.

⁴⁷ Mitcham, *Rommel's Greatest Victory*, 20.

Axis forces in their rear area while building the supplies necessary to finish their offensive. Auchinleck, unaware that the Axis temporarily neutralized Malta, was oblivious to the arrival of a large convoy of German-Italian reinforcements in early January.

Rommel launched an offensive on 21 January, which devastated the 1st Armored Division, Ritchie's forwardmost force. With the Italian XX Corps catching the British by complete surprise in a three-day battle, the 1st Armored lost 100 of 150 tanks, 33 artillery pieces, and thousands of soldiers.⁴⁸ This one of the few times that the Italians spearheaded the Panzer Army Africa, speaking to their credibility and Rommel's trust in their capabilities. Rommel exploited the Italian's success with the capture of Benghazi on 27 January. The attack added a small port close to Panzer Army Africa's front lines, shortening the ground line of communication for a portion of the supplies and reinforcements headed to the NAT.

The benefits of Rommel's January offensive were not limited to wresting terrain back from the British; Panzer Army Africa captured almost 2,000 trucks, 127 guns, 280 armored fighting vehicles, and sorely needed food, equipment, and fuel that the British stockpiled as a result.⁴⁹ Although this did not solve the logistics problem associated with the sea lines of communication, it alleviated the supply issues facing the Axis forces. Rommel immediately followed the actions in Benghazi with a reconnaissance in force to the Gazala line.

⁴⁸ Mitcham, Rommel's Greatest Victory, 21.

⁴⁹ Lucas, *Panzer Army Africa*, 91.

The Eighth Army assumed a defensive posture to the east of this line, including strong-pointing Tobruk once again. The Axis and Commonwealth armies would then know a period of semi-peace, remaining relatively stagnant in their positions on the west and east side of the Gazala Line, respectively. From the 6 February until spring, each side realized they were unfit to continue the offense in terms of combat power, material, and supply. The political leaders would utilize this time to redefine strategic objectives, but not without input from their respective operational level commanders. The armies took advantage of the operational lull by receiving replacements, equipment, and supplies, improving positions, and planning.

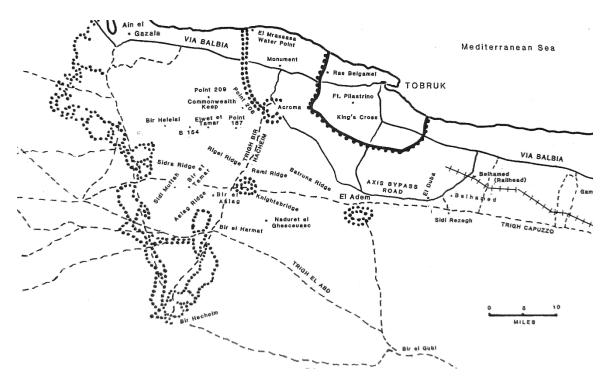


Figure 5. Gazala Defenses

Source: Samuel W. Mitcham, *Rommel's Greatest Victory* (Novato: Presidio Press, 1998), 37.

The Axis control of the Mediterranean Sea immensely affected strategic planning efforts. Shortened Axis sea lines of communication allowed Panzer Army Africa to quickly rebuild and reinforce combat power and receive the supplies necessary for the next stage in the campaign. Lengthened Commonwealth lines of communication forced the Eighth Army into a static defense. They made supply shipments to sustain another offensive an arduous process for both Middle East and China-Burma-India Theaters. The Axis considered how to take advantage of the current situation while attempting to make their control permanent, while the Commonwealth contemplated how to alleviate the toll the battle for North Africa inflicted on their global war effort.

1942 Strategic Objectives

The overall strategy pursued by the Commonwealth and Axis in the NAT during the 1942 campaigns shared a common approach. Both sides realized that achieving their strategic ends required an offensive in the summer. Both sides evaluated Malta highly in the battle for the Mediterranean maritime and air superiority, and the impacts of that superiority on the NAT. However, the development of the Commonwealth and Axis strategic aims starkly contrasted one another.

Commonwealth Strategy

Rommel's limited January offensive, combined with the operational impact of Field Marshall Albert Kesselring's Second Air Force, produced immense complications for the British operating environment in the Mediterranean. Kesselring's air power successfully neutralized Commonwealth air and naval assets at Malta, allowing Rommel to receive the much-needed men and material in December 1941. Additionally, Rommel's offensive seized the airfields from which the British were supplying the island fortress. The key to victory in the Mediterranean hung in the balance.

Auchinleck and his fellow operational-level Navy and Air Force commanders in the Mediterranean agreed on the operational approach going forward. Most importantly, the recapture of western Cyrenaica needed to occur as soon as possible. Secondly, the Eighth Army was to strengthen its position along the Gazala line while gaining the strength necessary to initiate offensive maneuvers. If Rommel attacked before the Commonwealth offensive began, the Eighth Army must not invest itself at Tobruk but fight a mobile defense back to the Syria-Egypt boarder. Ritchie, still in command of the Eighth Army, received this operational approach, including an order to prepare for an offensive in early February 1942.⁵⁰

The recapture of the airfields necessary to supply Malta were the immediate objectives of the offensive. Auchinleck also communicated the combat power that Ritchie could expect to employ towards the achievement of those objectives. However, the preliminary order did not contain all the necessary information; the order conspicuously lacked an expected execution date for the offensive..⁵¹ Auchinleck, always concerned with the armored force ratios, wanted to ensure that the combat power was present before beginning the offensive.

Auchinleck created friction between the operational approach and the Commonwealth's strategic leaders with his apparent reluctance to attack. Churchill, the

⁵⁰ Mitcham, *Rommel's Greatest Victory*, 25.

⁵¹ Ibid., 26.

War Cabinet, and the Chiefs of Staff admonished Auchinleck to begin the attack sooner rather than later to provide relief to Malta. Auchinleck retorted that Eighth Army lacked the combat power and argued that the potential loss of Egypt and the Suez Canal was more critical than the loss of Malta. Churchill and the Commonwealth were in desperate need of a win, but there were several months of back-and-forth to come.

The United Kingdom's public morale was at an extreme low in March 1942. The recent Allied loss in the Netherlands East Indies, Japan successfully wresting Burma from the Commonwealth, and two German battleships bypassing the blockade in the English Channel all contributed to the slump in public morale. Despite such heavy pressure, Auchinleck did not submit to the order to attack until threatened with a relief of command on 10 May 1942; Eighth Army offensive operations were to start in early June, intending to relieve the 30,000 men stranded on Malta.⁵²

The British strategic efforts in the spring of 1942 did not aim to defeat Axis forces in the NAT. Instead, Churchill focused efforts on a perceived necessary, quick win: relief of the forces in Malta. The British therefore sought a limited objective campaign to consume Axis resources, especially air power and naval support, in North Africa.

Axis Strategy

The Axis powers, meanwhile, sought a decisive victory in the upcoming campaign. Leaders at the strategic and operational levels envisioned success in the Mediterranean and North Africa as successfully seizing three key objectives: Malta, Tobruk, and the Suez Canal. Despite agreeing on the goals, the two leaders were at an

⁵² Mitcham, Rommel's Greatest Victory, 26.

impasse over prioritization and order of these objectives. Hitler viewed North Africa and, to a somewhat lesser degree, the Mediterranean as a distraction from attaining victory over Russia. Mussolini, on the other hand, viewed the battle for the Mediterranean as essential to Italy's survival. The loss in North Africa, and with it the loss of any colonial holdings of value, symbolized the decline of Italy as a great power in Europe. Due to these different prioritizations, Hitler deferred official strategic command in the theater to the Italians. Yet it would be Hitler, not Mussolini, that determined the order of objectives in 1942.

Rommel initially approached Hitler with his ambitious operational plans in mid-February 1942, attempting to influence strategy. Rommel requested immediate replacements and reinforcements to capture Tobruk and push on towards the Suez. Hitler and Field Marshal Keitel, commander in chief of the Armed Forces High Command, remained preoccupied with events in Russia and denied the request. Unbeknownst to these leaders, an alternate Italo-German cooperative strategy was forming.⁵³

General Count Cavallero, the chief of the Italian general staff, Mussolini, and Kesselring concocted Operation 'Hercules.' It called for a combined forces airborne invasion of Malta, with a follow-on amphibious operation to exploit and complete seizing the island from the British. The planned 130,000 Axis soldiers would overwhelm the 30,000 men the Commonwealth could muster, with little to no hope of reinforcement..⁵⁴ Hitler reluctantly committed German forces to 'Hercules,' but with a significant caveat.

⁵³ Mitcham, Rommel's Greatest Victory, 28.

⁵⁴ Ibid., 29.

Before 'Hercules' began, Rommel was to seize Tobruk. In desperate need of the German manpower and material to conduct the operation, Mussolini agreed. Thus, Hitler set the Axis grand strategy in the Mediterranean and North Africa for 1942. The prioritized objectives were first Tobruk, second Malta, and lastly, Egypt and the Suez; ultimately, the strategy called for complete victory over the British in the theater.

Summary

The events of 1941 and early 1942 reinforced the importance of logistics in the battle for North Africa. Control of Malta, prominent in both Axis and Commonwealth strategy for 1942, served as the linchpin to long-term control of the Mediterranean's sea lines of communication. Both belligerents decided that a successful ground offensive was vital before any campaign for Malta itself. The question remained who could and would transition into a viable offensive first. Rommel's constant, impulsive desire for the offense provided the answer.

CHAPTER 4

NORTH AFRICA, 26 MAY - 1 JULY 1942

The fact that within three weeks of the launching of [the] offensive this magnificent British Army was reduced to a state of complete rout, must be regarded as one of the greatest achievements in German Military Annals. —William Jackson, *The Battle for North Africa 1940-43*

Operational Planning

A daunting situation faced Panzer Army Africa in May 1942: a well-provisioned Eighth Army occupying a defense consisting of vast obstacle belts and fortified positions known as the Gazala Line. Auchinleck played a more active role in the Eighth Army's affairs following the January 1942 German counterattack, effectively sidelining Ritchie. During planning, Auchinleck dropped the idea of a contiguous linear defense and instead opted for an area defense formed from pocketed, fortified positions knowns as "boxes.".⁵⁵ The positions were one- to two-mile rectangles with a protective belt of mines and barbed wire on each side; inside, a brigade or division of Commonwealth combat power prepared to defend against an attack from any direction..⁵⁶ Auchinleck maintained all armored forces outside of the boxes to act as a mobile reserve, ready to reinforce boxes or counterattack..⁵⁷

 ⁵⁵ Alan Moorehead, *African Trilogy* (Longon: Hamish Hamilton, 1945), 314.
⁵⁶ Ibid.

ioiu.

⁵⁷ Ibid., 315.

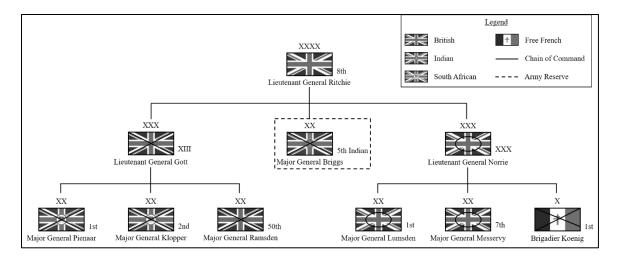


Figure 6. Eighth Army Task Organization, May 1942

Source: Author created.

Additionally, the Commonwealth heavily fortified and manned the fortress of Tobruk in preparation to withstand a siege. To complement the area defense and prevent massed maneuver bypassing the boxes, the Eighth Army constructed a large linear minefield stretching from the Mediterranean coast southwards approximately 40 miles using over 1,000,000 mines.⁵⁸ This minefield became a physical manifestation of the Gazala Line. The line itself was nothing more than a sizeable tactical obstacle meant to fix or, at the very least, disrupt. However, operationally it served as a protective obstacle. The fortress port of Tobruk and all of the critical intersections needed to advance through eastern Libya into Egypt lay to the east of the Gazala Line.⁵⁹

⁵⁸ Mitcham, Rommel's Greatest Victory, 35.

⁵⁹ Reinhard Stumpf, "The War in the Mediterranean Area 1942-1943," in *The Global War*, ed. Ewald Osers (Oxford: Claredon Press, 2001), 662.

The Eighth Army's disposition in late May 1942 consisted of the Gazala line, Tobruk, key "boxes," and intermediate "boxes." The Eighth Army developed four key "boxes," located along the Gazala Line, at Gazala, Alam Hamza, Sidi Miftah, and Bir Hacheim. Strongpoints to the east of the Gazala line and south of Tobruk at Acroma, El Adam, Al Mrassas, Knightsbridge, Sollum, Halfaya, and Hamra served as intermediate "boxes."⁶⁰ Tobruk served as the crown jewel of the Eighth Army's defense: it was both the biggest "box" and a port from which to supply the forward positions.

⁶⁰ Stumpf, "The War in the Mediterranean Area 1942-1943," 662.

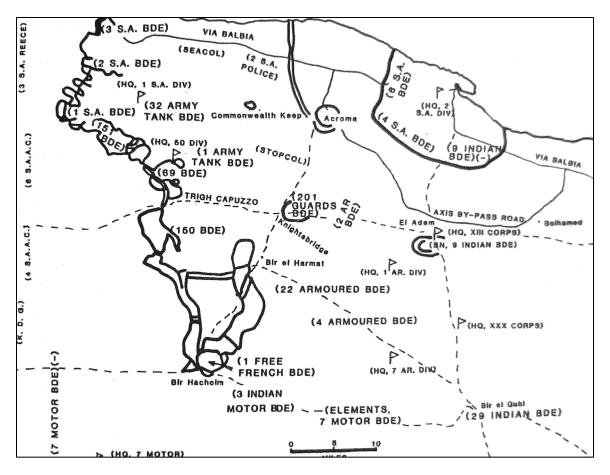


Figure 7. Eighth Army Disposition, May 1942

Source: Samuel W. Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 41.

Auchinleck's approach to planning and preparing the defense was single-minded. It was to attempt to draw Panzer Army Africa into positional warfare, the emphasis of pre-war British doctrine, and for which the British Army trained and executed excellently..⁶¹ "The underlying idea was this – the Nazi tanks were at liberty to bypass or surround these sealed-up boxes and seize all the rest of the Gazala area if they so

⁶¹ Mitcham, Rommel's Greatest Victory, 36.

desired . . . it was just empty desert anyway. But they could not proceed far lest the British should sally out of their boxes and take them in the exposed rear or flank."⁶² There was one fatal flaw in the Eighth Army's assumptions: failure to understand the enemy.

Rommel was not predisposed to positional warfare because he fully understood the value of maneuver on the modern battlefield. There were two concrete operational goals assigned to Rommel. The first was the strategic goal of seizing Tobruk from the British, limiting their ability to resupply forces on the continent and extending their lines of communication to the Alexandria in Egypt. The second operational goal was to position forces to poise the Army for the capture of the Suez Canal.

To achieve these goals, and meet Rommel's desire for maneuver warfare, Panzer Army Africa's operational plan called for a fixing force, a striking force, strong Luftwaffe support, and flexibility to account for the fog and friction of war. The Italian X and XXI Corps, reinforced by the German 15th Infantry Brigade, were assigned as the fixing force, arrayed along the Gazala Line from the Mediterranean coast south to Segnali. The striking force was more mobile and consisted of two corps, the DAK and Italian XX Motorized Corps, and an independent division, the German 90th Light African Division.

⁶² Moorehead, *African Trilogy*, 314-315.

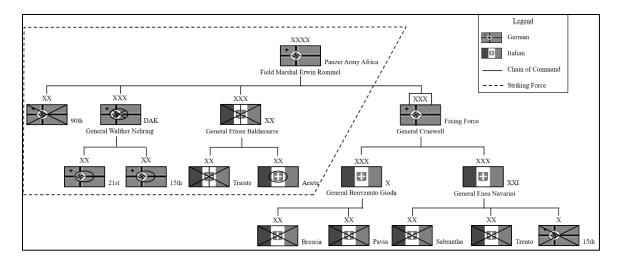


Figure 8. Panzer Army Africa Task Organization, May 1942 Source: Author created.

The fixing force was to move into an attack position in the evening of day X and hold there overnight. Meanwhile, the striking force would begin to envelop the Gazala Line by moving southeast towards Bir Hacheim overnight on day X to X+1. At dawn on the morning of X+1, the striking force was to commence the attack northward towards El Adam to the south of Tobruk and Al Mrassas to the west of Tobruk. The assault intended to defeat the Bir Hacheim, El Adam Acroma, Al Mrassas, and Knightsbridge "boxes" and seal the remaining "boxes" off from the support of Tobruk by noon on day X+1. Panzer Army Africa requested the Luftwaffe to neutralize the Royal Air Force by day X+2 and provide close air support throughout the operation. The fixing force would then reduce the remaining boxes while the striking force captured Tobruk by day X+5. The plan was ambitious, to say the least, but feasible given the dispersed nature of the Eighth Army. The plan aimed not only to capture Tobruk but to defeat the Eighth Army in detail, leaving little to no resistance on the subsequent approach march to the Suez Canal following the seizure of Malta.⁶³

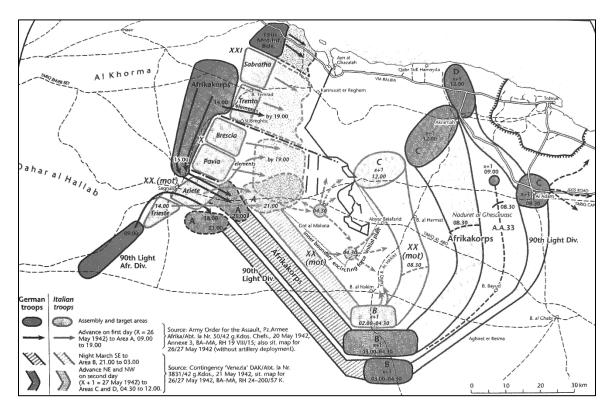


Figure 9. Plan for the Assault on the Gazala Line

Source: Reinhard Stumpf, "The War in The Mediterranean Area: 1942-1943," in *The Global War*, ed. Ewald Osers (New York: Oxford University Press, 2001), 663.

Rommel's plan, while audacious in achieving deception, surprise, and objectives, was a simple blocking and tackle maneuver on a grand scale. His confidence in Italian competence capabilities is evident in the use of XX Corps as a covering force aligned against crucial positions on the Gazala Line, such as Bir Hacheim. Additionally, Rommel

⁶³ Stumpf, "The War in the Mediterranean Area 1942-1943," 668-671.

knew the Italian X and XXI Corps would achieve the intended fixing force, only creating Group Cruewell to simplify communications and synchronization with the remainder of Panzer Army Africa. Confident in the German-Italian force's ability to accomplish their assigned missions, Rommel's attack began with the precision of a German train schedule.

The Assault, 26-27 May 1942

Looks like a brigade of Jerry tanks coming," he reported over his telephone to his headquarters. He looked again and added sharply, "It's more than a brigade. It's the whole bloody Afrika Korps. —Alan Moorehead, *African Trilogy*

The opening stages of action went almost exactly as planned. The fixing force, under the command of General Cruewell, began their assault at 14:00 on 26 May. The fixing force's essential task was to convince the Eighth Army that the Axis main attack aimed at penetrating the Gazala Line. Heavy volumes of artillery, bombers, and dust trucks supported the fixing force. Dust trucks were flatbed trucks with an airplane engine mounted on the bed meant to throw up enough dust to give the illusion of advancing panzer and motorized infantry columns. The fixing force attained its primary purpose by coupling these effects with the bombing of the Tobruk and El Adam airfields. By nightfall on 26 May, the Eighth Army believed the main thrust of the Axis attack would strike the center of the Gazala Line the following morning.⁶⁴

Meanwhile, the striking force had maneuvered into their initial assault positions and began refueling efforts by evening on 26 May. The initial assault positions were to the west of Sidi Mitfah in the center of the Gazala Line. Their location added to the

⁶⁴ Mitcham, Rommel's Greatest Victory, 65.

British assumption of an imminent attack on the morning of 27 May. Instead, the striking force proceeded on a night march facilitated by a full moon, compass bearings, and a strict speed limit of ten kilometers per hour while maintaining radio silence. While moving, Rommel issued the code word "Venizia" for the striking force to continue south around Bir Hacheim. The Italian Trieste Division, relying on limited liaison radio channels, missed the order and turned eastward into the center of the Gazala Line. The remainder of the striking force reached its final assault positions to the south end of Bir Hacheim at approximately 03:00 on 27 May.⁶⁵ British scout cars encountered the armored armada that was the striking force and reported it to their headquarters. However, the Eighth Army dismissed the reported armored column as a diversionary movement meant to distract from the assault at the center of the Gazala Line.⁶⁶

⁶⁵ Stumpf, "The War in the Mediterranean Area 1942-1943," 674-675.

⁶⁶ Lucas, Panzer Army Africa, 98.

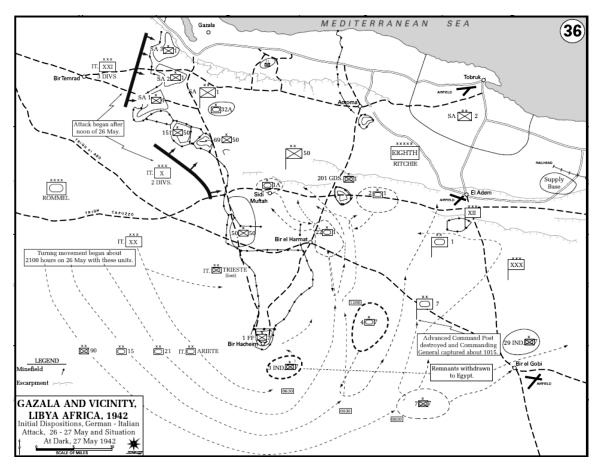


Figure 10. Panzer Army Africa Attacks, 26-27 May 1942

Source: United States Military Academy, "Libya, Initial Dispositions, German-Italian Attack, 26-27 May 1942," WWIIEurope36, accessed April 15, 2020, https://www.westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWII Europe/WWIIEurope36.pdf.

At 04:30 on 27 May, the striking force began the assault toward their northern objectives. The Italian XX Corps advanced on the 1st Free French Brigade at Bir Hacheim, while the DAK and 90th Light Division went northward to the west of Bir Hacheim. The 15th Panzer Division was the first unit of the striking force to battle with Eighth Army's forces; at an unexpected range due to the British fielding of U.S. Grant tanks during the four-month lull. The surprise of Grant tanks and their range temporarily halted the DAK advance but ended in the destruction of almost two British tank regiments..⁶⁷ The 21st Panzer Division entered the battle at 08:30, facing stiff resistance from portions of the British 7th Armored Division. The Italian Ariete Division attacked Bir Hacheim in two waves, at 09:00 and 09:30, respectively, both of which the 1st Free French Brigade thwarted..⁶⁸ Despite the setback at Bir Hacheim, Rommel pressed the DAK to continue its advance towards the Trigh Capuzzo.

Rommel realized that the striking force would not reach their objectives at noon as planned, but still desired for the seizure of assigned objectives before nightfall. The Eighth Army unleashed a massive counterattack by the 1st Armored Division along the Trigh Capuzzo. The counterattack slowed the DAK advance to a crawl throughout the afternoon but ultimately did not prevent the DAK from reaching their objectives.

However, by nightfall on 27 May, the DAK was the only element of the striking force to reach their X+1 objective. The 90th Division was halted four kilometers south of El Adam in a defensive position.⁶⁹ The Italian XX Corps failed to achieve their objectives. The Ariete Division had advanced to Bir el Harmat but was unable to capture Bir Hacheim.⁷⁰ The Trieste Division enveloped too early because of continuous radio troubles, bogging itself down in the southern end of the Gazala Line north of Bir

⁶⁷ Stumpf, "The War in the Mediterranean Area 1942-1943," 675-676.

⁶⁸ Lucas, Panzer Army Africa, 98.

⁶⁹ Stumpf, "The War in the Mediterranean Area 1942-1943," 680.

⁷⁰ Mitcham, Rommel's Greatest Victory, 77.

Hacheim. However, it cleared a lane in the minefield and was three kilometers south of Bir Balafarit.⁷¹

Not only had the striking force failed to destroy the Eighth Army units in the Bir Hacheim-El Adam-Akrahmah-Gazala area as intended for X+1, the general situation endangered the accomplishment of the operation's primary goal, seizing of Tobruk. The DAK lost one-third of its tanks, faced a shortage of fuel, and the 90th Light Division had no contact with the remainder of the striking force. The operation did have successful effects: the British command structure was in disarray, the 7th Armored Division headquarters temporarily destroyed, and three brigades were combat ineffective. ⁷² The central fact remained: Rommel had effectively maneuvered the striking force into a trap.

Fighting between Gazala and Tobruk, 28 May - 17 June 1942

But I will not deny that I was seriously worried that evening. —Erwin Rommel, *The Rommel Papers*

The situation on the evening of 27 May dictated the actions Panzer Army Africa needed to take to snatch victory from the jaws of defeat. First, the striking force needed to regroup, gain maneuver room by pushing north towards the Via Balboa and shorten the lines of communication with the rest of Panzer Army Africa by breaking through the Gazala Line. Rommel ordered the 90th Light Division to move north-west, link up and receive resupply from the DAK, and then gain control of the area between Acroma and the Mediterranean Sea. Rommel ordered the DAK to finish seizing its objective and take

⁷¹ Stumpf, "The War in the Mediterranean Area 1942-1943," 677.

⁷² Ibid., 680-681.

Acroma. Additionally, Rommel ordered Cruewell's fixing forces to attack the Gazala Line and establish a breakthrough.⁷³

Rommel's forces were unable to regroup until 29 May. The 90th Light Division was able to reach Bir al Harmat, and the Ariete Division pushed across the Trigh Capuzzo towards the DAK. The Trieste Division, relying on initiative, exploited a gap in the Gazala Line to re-establish contact with the Ariete Division.⁷⁴ The regrouped striking force established a hasty defense with their rear area against the Gazala line, calling the defended area the Cauldron.⁷⁵ The gap exploited by the Trieste Division would become a key logistics line for the striking force, enabling ammunition and fuel resupply as they attacked north. However, Cruewell's fixing force was in worse shape.

A counterattack by the South Africans breached the Italian Sabrantha Division, forcing Cruewell to discontinue the fixing force's attack. To add insult to injury, the plane Cruewell was traveling in was shot down, leading to his capture by elements of the Eighth Army. Field Marshall Kesselring happened to be visiting Cruewell's headquarters at the time, and Kesselring generously subordinated himself to the orders of the then Colonel-General Rommel while briefly assuming command of the fixing force.⁷⁶

The fixing force calling off the attack as the striking force assumed a defensive posture, Ritchie believed that Rommel was organizing to reattack to the east. This belief,

⁷³ Stumpf, "The War in the Mediterranean Area 1942-1943," 682.

⁷⁴ Ibid., 682-683.

⁷⁵ Mitcham, Rommel's Greatest Victory, 87.

⁷⁶ Stumpf, "The War in the Mediterranean Area 1942-1943," 683.

shared with Auchinleck, guided British operational and tactical assumptions, planning, and execution over the next several days. Ritchie originally planned to mass artillery fires against the striking force concentrated in the Cauldron. At the same time, lightly armored patrols attacked supply columns that he forecasted to come from the south around Bir Hacheim. Ritchie believed Panzer Army Africa's situation to be so bad that he signaled Auchinleck, "Rommel on the run!".⁷⁷

The striking force spent much of 30 May fighting defensive engagements against British armored attacks on the Cauldron from the north and east. Meanwhile, Rommel personally escorted the sorely needed supplies through the gap in the Gazala Line that the Italian Trieste Division exploited only two days before. By subjugating operations to logistics for this one day, Rommel had ensured his armored divisions' ability to conduct another offensive.⁷⁸ There were two remaining Eighth Army 'boxes' that the Panzer Army Africa needed to destroy before assaulting Tobruk: Got el Ualeb manned by the British 150th Brigade and Bir Hacheim manned by the 1st Free French Brigade.

Panzer Army Africa's intelligence preparation and planning failed to account for the box at Got el Ualeb. While forming the Cauldron, Panzer Army Africa became aware of the 150th Brigade's position along the Gazala Line just south of the Trigh Capuzzo. Following preparatory attacks by the Trieste and 90th Light Infantry Divisions on 31

⁷⁷ Mitcham, *Rommel's Greatest Victory*, 85-86.

⁷⁸ Stumpf, "The War in the Mediterranean Area 1942-1943," 685.

May, the German 15th Panzer Division quickly reduced the 150th's box in less than twelve hours on 1 June.⁷⁹

Several factors influenced such a quick result in the battle for the Got el Ualeb box. First, the Germans captured an artillery observation post early in the morning that accurately adjusted indirect fires on the 150th Brigade's defensive positions.⁸⁰ Second, the 150th received no support from the Royal Air Force on 1 June. Lastly, piecemeal British attempts to resupply and reinforce the 150th Brigade were either destroyed in route or launched after the 150th Brigade's destruction.⁸¹

Ritchie was still confident in the Eighth Army's prospects of operational success, signaling to Cairo, "I am distressed over the loss of the 150th Brigade after so gallant a fight, but still consider the situation favourable [*sic*] to us and getting better daily."⁸² Ritchie failed to see what Rommel gained by reducing the box at Got el Ualeb: a severe breach in the Gazala Line to flow reinforcements and logistics through. With these opposing views, the respective army commanders hastily planned for very different fights. Ritchie designed a pursuit of an estimated westward retreating Panzer Army Africa, and Rommel planned a continued attack to facilitate the capture of Tobruk. What ensued became known as the Battle of the Cauldron.

⁸⁰ Ibid.

⁸² Ibid.

⁷⁹ Lucas, *Panzer Army Africa*, 103.

⁸¹ Mitcham, Rommel's Greatest Victory, 93.

At the center of the Battle of the Cauldron was the box at Bir Hacheim. The operational function served by Bir Hacheim made it of extreme importance; is served as the southern linchpin of the Gazala Line. If Panzer Army Africa captured the position, it would ". . . destabilize the whole system, open up a pocket in the south, and permanently secure the German supply-line."⁸³ This was no simple task; the 1st Free French Brigade established a stout defense that Rommel described as ". . . a skillfully planned system of field positions and small defence [*sic*] works – slit trenches, small pill-boxes, machinegun and anti-tank gun nests – all surrounded by dense minefields."⁸⁴ With the DAK and Italian Ariete Division holding the eastern and northern approaches to the Cauldron, Rommel ordered the Italian Trieste and German 90th Light Infantry Divisions to move against Bir Hacheim on the evening of 1 June, begin their attack on the morning of 2 June. Rommel's expectation was a one-day engagement to result in an Eighth Army box reduced once again.

Panzer Army Africa would find the 1st Free French Brigade, with the aid of the Eighth Army and Royal Air Force that the 150th Brigade was sorely lacking, were much more stubborn defenders throughout the nine-day land battle. The 1st Free French Brigade denied the offer of surrender and successfully defeated the initial attacks launched on 2 June. The Luftwaffe continued bombardment of Bir Hacheim over the next

⁸³ Stumpf, "The War in the Mediterranean Area 1942-1943," 687.

⁸⁴ Rommel, *The Rommel Papers*, 213.

few days while Panzer Army Africa focused their efforts on defense of the Cauldron in the area around Knightsbridge and Bir el Harmat by the DAK and Ariete Division.⁸⁵

On 5 June, the 21st Panzer Division destroyed the British 32nd Army Tank Brigade, which attacked from the north. Meanwhile, the 15th Panzer and Ariete Divisions encircled the remaining three Eighth Army brigades that attacked the Cauldron from the east. On 6 June, the DAK and Ariete Division reduced the encircled forces. The Eighth Army attack meant to encourage the westward retreat of Panzer Army Africa ended with complete loss or capture of four maneuver brigades, three field artillery regiments, and a division support element.⁸⁶

The 90th Light Infantry Division renewed the ground attack of Bir Hacheim on 6 June. Still, it halted within 700 meters of the defensive perimeter due to a dense minefield and a complete lack of cover. The 90th Light Infantry Division spent the night of 6-7 June clearing lanes in the minefield, for an assault on 7 June that failed to penetrate the defensive positions significantly. However, Panzer Army Africa successfully cut the 1st Free French Brigades supply lines on 7 June.⁸⁷ On the northern end of the Gazala Line, the Eighth Army launched an unsuccessful one-brigade attack against the Italian Sabrantha and Trento Divisions.⁸⁸

⁸⁵ Stumpf, "The War in the Mediterranean Area 1942-1943," 687.

⁸⁶ Mitcham, Rommel's Greatest Victory, 104-111.

⁸⁷ Mitcham, *Rommel's Greatest Victory*,114; Rommel, *The Rommel Papers*, 214-217; Stumpf, "The War in the Mediterranean Area 1942-1943," 687.

⁸⁸ Mitcham, Rommel's Greatest Victory, 112.

On 8 June, elements of the 90th Light Infantry Division succeeded in breaching the outer defenses of the 1st Free French Brigade. The 90th Light Infantry Division finally succeeded in breaking into the main defensive positions on 10 June. General Koenig led his brigade's retreat westward during the night of 10-11 June, cutting short Rommel's planned destruction of the 1st Free French Brigade on 11 June.⁸⁹

With Bir Hacheim finally in possession, Rommel redirected Panzer Army Africa's attention to the west and north. Two remaining Eighth Army boxes required reduction before consolidating Panzer Army Africa for an assault on Tobruk: El Adam and Knightsbridge. Rommel immediately ordered the 90th Light Infantry, Ariete, and 15th Panzer Divisions to advance on El Adam on 11 June. Meanwhile, 21st Panzer Division was to slowly approach Knightsbridge to prevent the British armored forces there from reinforcing El Adam. On the approach towards the Knightsbridge box on 12 June, the 15th and 21st Panzer Divisions were able to trap a slow-reacting British 7th Armored Division between their axis of advance, reducing both armored Brigades to combat ineffectiveness in what can only be called a rout. That same day, the 90th Light Infantry Division's assault on the El Adam box defended by the 29th Indian Brigade faired far worse, forcing the division to withdraw.⁹⁰

⁸⁹ Mitcham, *Rommel's Greatest Victory*, 114-116; Rommel, *The Rommel Papers*, 218-220; Stumpf, "The War in the Mediterranean Area 1942-1943," 687-688.

⁹⁰ Mitcham, *Rommel's Greatest Victory*, 122-123; Stumpf, "The War in the Mediterranean Area 1942-1943," 691.

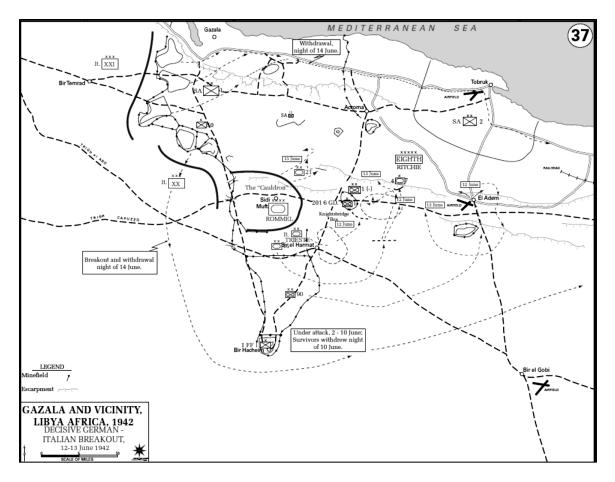


Figure 11. Breakout from the Cauldron, 12-13 June 1942

Source: United States Military Academy, "Libya, Decisive German-Italian Breakout, 12-13 June 1942," WWIIEurope37, accessed April 15, 2020, https://www.westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWII Europe/WWIIEurope37.pdf.

The Italian XX Corps pursued the remnants of the 7th Armored Division on 13 June until the British were far north of the Trigh Capuzzo on the western side of Knightsbridge. The destruction of much of and withdrawal of remaining the Eighth Army's armor in the area made the Knightsbridge box untenable, forcing the Scots Guard Brigade to withdraw towards Tobruk. The 90th Light Infantry Division was able to join up with the 15th Panzer Division to the west of Knightsbridge. With the Gazala line firmly broken and the consolidation of the striking force, Rommel's next step was to thrust north to the Mediterranean Sea..⁹¹

The rapidly deteriorating situation of the Eighth Army gave Generals Ritchie and Auchinleck reason enough to develop an updated defensive plan. Auchinleck ordered Ritchie to pull the remaining forward-defending forces on the Gazala Line back to defend along an Acroma-El Adam line (see Figure 12). Auchinleck directed Ritchie not to allow the forces at Tobruk to come under siege or become outflanked, but instead withdraw them to the Egyptian frontier if the situation looked dire. However, the XIII Corps Commander, General Gott, convinced Ritchie that the supply depot located at Tobruk was too valuable to leave to Panzer Army Africa. ⁹² The Eighth Army issued these orders to their subordinate units on the morning of 14 June, allowing Rommel's striking force to advance northward on an army in transition.

⁹¹ Rommel, *The Rommel Papers*, 221-222.

⁹² Mitcham, Rommel's Greatest Victory, 125-127.

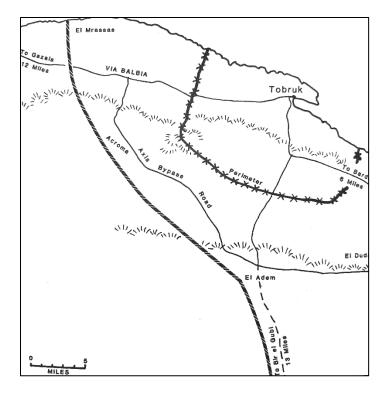


Figure 12. Auchinleck's Proposed Acroma-El Adam Line

Source: Samuel W. Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 126.

On the evening of 13 June, Rommel arrayed the striking force with the DAK immediately to the west of Trigh Bir Hacheim to the northwest of Knightsbridge, the Italian Trieste and Ariete Divisions screening the DAK's eastern flank, and the 90th Light Infantry Division further east and in position to seize the approaches to Tobruk quickly. Recognizing that the Eighth Army was repositioning, the DAK maneuvered quickly north towards Acroma on 14 June until they ran into the minefield demarking the newly established Acroma-El Adam defensive line. The DAK successfully penetrated this line that evening and seized the area immediately west of Acroma. The battle of the Acroma-El Adam line significantly reduced the Eighth Army's armored force, now down to one armored brigade – the 4th Armored Brigade of the 7th Division. Not everything went well for Panzer Army Africa, as a significant portion of the British 50th Division escaped the Gazala line southwards through the Italian X Corps, an element of the fixing force, and did considerable damage to the Axis supply lines during their flight.⁹³

The Gazala Line completely broke on 15 June. This day saw what remaining Eighth Army Forces in the northern portion of the line fight desperately to break out to the east. The fixing force of the Italian X and XI Corps and the German15th Motorized Infantry Brigade breached the minefields of the Gazala Line and moved eastward to join the striking force. Rommel also dispatched the 21st Armored Division and 90th Light Infantry Division to reduce the still standing El Adam box. Although the divisions captured key positions and prisoners, the 90th Light Infantry Division failed to destroy the main defensive position. However, Rommel realized the majority of the Eighth Army had moved to the Egyptian frontier to establish another defensive line, leaving only the 29th Indian Brigade in the El Adam box and the reinforced 2nd South African Division at Tobruk.⁹⁴

⁹³ Mitcham, *Rommel's Greatest Victory*, 131-133; Rommel, *The Rommel Papers*, 222-223; Stumpf, "The War in the Mediterranean Area 1942-1943," 691.

⁹⁴ Mitcham, Rommel's Greatest Victory, 138-140.

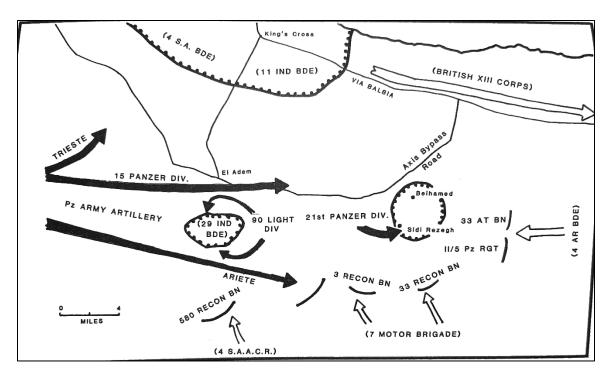


Figure 13. Attack against El Adam and Sidi Rezegh

Source: Samuel W. Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 143.

The 90th Light Infantry Division continued limited attacks on the El Hatian position on 16 June, but the 29th Indian Brigade proved tough defenders once again. Rommel re-tasked the 90th Light Infantry to surround the El Hatian position to enable the DAK and Italian XX Corps to advance westward. The 21st Panzer Division attacked the southwest cornerstone of the Tobruk defense, the Sidi Rezegh box, and seized it that afternoon. The majority of the 29th Infantry Brigade escaped the 90th Light Infantry Division's encirclement the night of 16-17 June. The DAK also captured a critical supply dump at Belhamed that Eighth Army ordered the 20th Indian Brigade to destroy. Rommel's attention now turned northward to complete the encirclement of Tobruk..⁹⁵

On Rommel's orders, the DAK and Italian Ariete Divisions moved north on 17 June to cut the Via Balboa at Gambut to the east of Tobruk. Seizing Gambut would not just complete the encirclement of Tobruk but also capture a key British airfield. Air Vice-Marshal Coningham, commander of the British Desert Air Force, received notification of the fall El Adam and understood the threat to his forces at Gambut. He immediately ordered the evacuation of all remaining airfields in Libya, leaving Tobruk devoid of most air support. The 21st Panzer Division was held up to the southeast of Sidi Rezegh by the remnants of the 4th Armored Brigade and, although ordered by Rommel to withdraw, succeeded in forcing the last British armored force to withdraw to Egypt due to losses. When the DAK and Italian Ariete Divisions finally arrived at Gambut during the night of 17-18 June, they captured large stores of fuel, ammunition, and food with little active resistance from the Eighth Army.⁹⁶

Rommel used 18 and 19 June to consolidate, reorganize, and resupply Panzer Army Africa. The captured British supplies, in addition to some of their supply dumps left in place in 1941 and never discovered by the British, allowed Panzer Army Africa to fully restock every significant class of supply. Rommel directed the 90th Light Infantry Division to continue advancing eastwards to Bardia with the task of seizing more supply

⁹⁵ Mitcham, *Rommel's Greatest Victory*, 142-144; Rommel, *The Rommel Papers*, 225-227.

⁹⁶ Mitcham, *Rommel's Greatest Victory*, 149; Rommel, *The Rommel Papers*, 227; Stumpf, "The War in the Mediterranean Area 1942-1943," 692.

dumps and the intent to create doubts in the Eighth Army headquarters as to his intentions for the next stage of the campaign. The Italian X Corps, consisting now of the original Pavia Division and the new Littorio Armored Division, was assigned to screen to the south and west of Tobruk. The Italian XXI Corps screened the east of Tobruk. The DAK, now including the 15th Infantry Brigade previously detached to the fixing force, remained in the vicinity of Gambut, preparing for the attack on Tobruk.⁹⁷

Tobruk: 20-22 June 1942

Tobruk! It was a wonderful battle.

-Erwin Rommel, The Rommel Papers

Rommel began planning his assault on Tobruk on 17 June, having kept a keen eye on the Eighth Army's disposition and strength left to defend the fortress. Rommel believed the Eighth Army left the reinforced 2nd South African Division, 11th Indian Brigade, 2nd Battalion of the 201st Guards Brigade, a small infantry tank force under the command of the 32nd Army Tank Brigade, and several artillery regiments. The intelligence estimate on the defender's composition and disposition was accurate enough to enable a decisive, swift blow. The defense force consisted of the 2nd South African Division with only two infantry brigades, augmented by the two-battalion 201st Guards Brigade, the two-battalion 32nd Army Tank Brigade with infantry tanks, the 4th Anti-Aircraft Brigade, and four regiments of field artillery. Despite the number of experienced

⁹⁷ Rommel, *The Rommel Papers*, 228.

artillery units defending Tobruk, the units kept most of the artillery ammunition in the supply areas instead of with the guns.⁹⁸

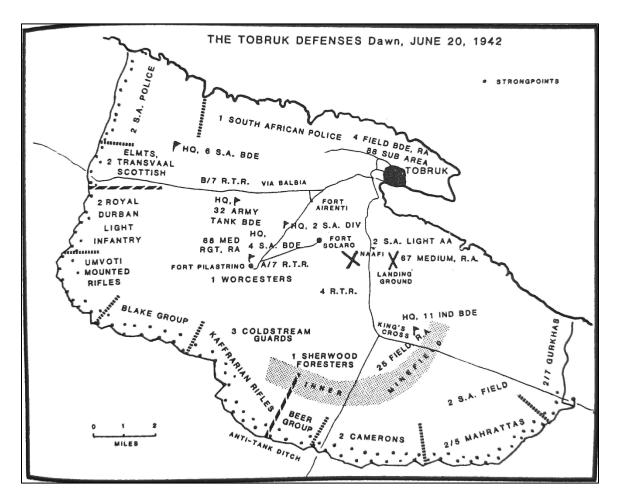


Figure 14. Tobruk Defenses, Dawn on 20 June

Source: Samuel W. Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 155.

⁹⁸ Mitcham, *Rommel's Greatest Victory*, 156; Rommel, *The Rommel Papers*, 228-229.

In Rommel's own words, translated and edited by B.H. Liddell-Hart, his plan to capture Tobruk aligned with the principle of simplicity.

The feint attack in the south-west was to be executed by the XXI Italian Corps, who were provided with several tanks in support. The group making the main attack consisted of the Africa Korps and XX Italian Corps. Before the attack was opened the main attack sector, south-east of the fortress, was to be bombed by the entire German-Italian Air Force in Africa. Once the infantry had succeeded in reducing the fortified lines, the Africa Korps was to press on over the crossroads to the harbour [*sic*] and open up the Via Balbia to the west. Following up the Africa Korps, XX Italian Corps was to capture the British defence [*sic*] works and thrust through to the Ras el Madauer in the rear of the South Africans.⁹⁹

Rommel scheduled the aerial bombardment for 5:20 a.m. on 20 June. This plan also

required the 90th Light Infantry Division to disengage from Bardia during the night of

19-20 June to occupy their attack positions.¹⁰⁰

⁹⁹ Rommel, *The Rommel Papers*, 229-230.

¹⁰⁰ Mitcham, *Rommel's Greatest Victory*, 162.

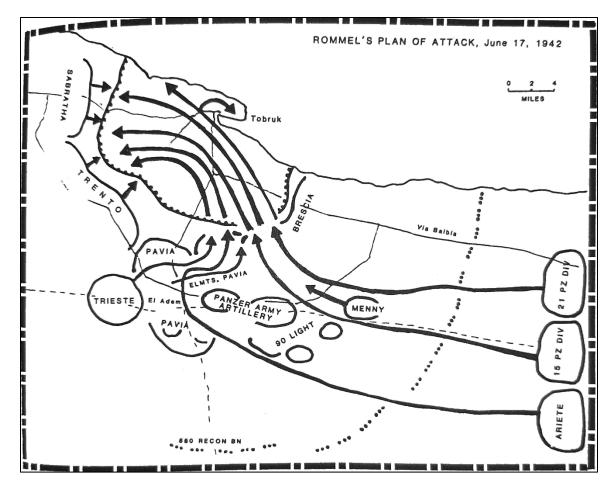


Figure 15. Rommel's Plan for Tobruk, 17 June

"Promptly at 0520 the Stukas flew over . . . the German and Italian artillery joined in with tremendous and well-coordinated fire. . . and as we soon realised [*sic*] had a crushing effect on the morale of the Mahratta battalion in that sector," recalled Colonel von Mellenthin, one of Rommel's staff officers..¹⁰¹ The bombardment allowed the engineers and infantry to complete the necessary breaches and build bridges over the tank

Source: Samuel W. Mitcham, Rommel's Greatest Victory (Novato: Presidio Press, 1998), 163.

¹⁰¹ Jackson, *The Battle for North Africa*, 294-295.

ditches unharried by British fire. With the maneuver lanes opened by 6:35 a.m., the DAK and Italian XX Corps could begin their attack.¹⁰²

The 2nd South African Division committed their initial reserves with portions of the 4th Armored and 201st Guards Brigades by 7:00 a.m. before the first German tanks began crossing the bridge over the tank ditch [Bridge and bridgehead not complete until 7:55 a.m.]. The piecemeal commitment of the reserve force did little to stem the tide of the DAK assault. The DAK and Italian Ariete Divisions were able to cross the tank ditch and penetrate the defensive perimeter within a half-hour of the 21st Armored Division's crossing at 8:31 a.m. The DAK's advance to King's Cross was never effectively impeded by the 2nd South African Divisions forces, although the inner minefield hampered movement for about an hour, which led to the capture of the position by 2:00 p.m. Rommel could now see the illusive Tobruk harbor!.¹⁰³

¹⁰² Mitcham, Rommel's Greatest Victory, 166.

¹⁰³ Ibid., 167-173.

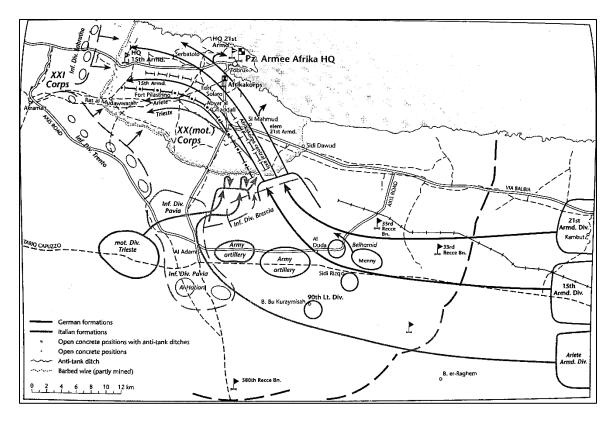


Figure 16. Panzer Army Africa Attack, 20 June

Source: Reinhard Stumpf, "The War in The Mediterranean Area: 1942-1943," in *The Global War*, ed. Ewald Osers (New York: Oxford University Press, 2001), 701.

The 21st Panzer Division captured the town and harbor at Tobruk between 5:00 and 7:00 p.m. Meanwhile, the 15th Panzer and Ariete Divisions had attacked and seized two forts of the Tobruk defensive system: Fort Pilastrino by surrender and Fort Solaro by force. Thus, by nightfall, Panzer Army Africa seized two-thirds of the fortress system of Tobruk, including the harbor. General Klopper, commander of the 2nd South African Division, organized the outbreak of a small armored and motorized force to the Egyptian frontier on the night of 20-21 June and surrendered the remainder of his command to Rommel at 9:40 am on 21 June 1942. The forces surrendered consisted of 19,000 British, 10,500 South Africans, and 2,500 Indians – a total of 32,000 prisoners and large quantities of supplies that the 2nd South African Division had no time to destroy. In twenty-eight hours and twenty minutes, Rommel had accomplished what he could not in 1941.¹⁰⁴

Impacts on Operations and Strategy

The great battle in the Marmarica has been crowned by your quick conquest of Tobruk. We have taken in all over 45,000 prisoners and destroyed or captures more than 1,000 armoured [*sic*] vehicles and nearly 400 guns. During the long hard struggle of the last four weeks, you have, through your incomparable courage and tenacity, dealt blow upon blow. Your spirit of attack has cost him the core of his field army, which was standing poised for an offensive. Above all, he has lost his powerful armour [*sic*]. My special congratulations to officers and men for this superb achievement.

Soldiers of the Panzer Army Afrika!

Now for the complete destruction of the enemy. We will not rest until we have shattered the last remnants of the British Eighth Army. During the days to come, I shall call on you for one more great effort to bring us this final goal. —Erwin Rommel, *The Rommel Papers*

Rommel, promoted to Field Marshall effective 22 June 1942, was convinced more

than ever of the need to subordinate the capture of Malta to finishing the North African

Campaign. Rommel made this recommendation directly to Hitler, not bothering with

German, Italian, or German-Italian command structure. This course of action was

furiously opposed by Field Marshal Kesselring of OB South, the German Naval Staff, the

German military attaché in Rome, and the Italian General Staff, all of which desired to

proceed with the airborne and amphibious assault on Malta. Before strategic leaders

¹⁰⁴ Jackson, *The Battle for North Africa*, 296; Mitcham, *Rommel's Greatest Victory*, 178-183; Rommel, *The Rommel Papers*, 231; Stumpf, "The War in the Mediterranean Area 1942-1943," 699.

rendered a decision, Rommel already began maneuvering the Panzer Army Africa westward towards the Egyptian frontier and El Alamein on 22 June.¹⁰⁵

On 24 June, Rommel received word from the German military attaché in Rome, "Duce [Mussolini] approves Panzerarmee's intention of pursuing the enemy into Egypt," delaying the Malta operation until September 1942..¹⁰⁶ This message arrived after Hitler's approval, which Mussolini was more than happy to extend while intoxicated with the recent success at Tobruk and the prospect of avenging the loss of Ethiopia to Great Britain. Yet Panzer Army Africa had already begun its major assaults on the Egyptian frontier positions on 23 June..¹⁰⁷

Rommel's army found the Libya-Egypt border fence abandoned, the remaining Eighth Army units to their front mainly fled further east. Panzer Army Africa overtook the abandoned positions at Al Qarat al Hamra and Sidi Barrani by the evening of 24 June. The Panzer Army Africa began its attack on Mersa Matruh on 26 June. It successfully captured the position on 29 June; a wanting reconnaissance picture contributed to the delay significantly. Rommel consolidated and reorganized the Panzer Army Africa on 30 June using the supplies captured at Mersa Matruh while issuing the order to begin the first attack on El Alamein on 1 July 1942. The Desert Fox's stunning operational success in North Africa came to an end.¹⁰⁸

¹⁰⁸ Stumpf, "The War in the Mediterranean Area 1942-1943," 711-715.

¹⁰⁵ Jackson, *The Battle for North Africa*, 298; Mitcham, *Rommel's Greatest Victory*, 184.

¹⁰⁶ Stumpf, "The War in the Mediterranean Area 1942-1943," 709.

¹⁰⁷ Jackson, *The Battle for North Africa*, 299.

CHAPTER 5

ANALYSIS OF MULTINATIONAL INTEROPERABILITY

Rommel, as the commander, primarily receives the credit for Panzer Army Africa's operational success in May to June 1942. This assessment is not necessarily incorrect, as, without his leadership and decision-making, many of the events may have transpired quite differently. It does, however, fail to capture the importance of the German-Italian army's interoperability in achieving operational success. Historians have begun to widely challenge the view of the Italian army as a bumbling, unprofessional, inefficient force. Accepting these two facts together enables the examination of multinational interoperability during May and June 1942: the success was Rommel's; a competent and credible Italian ally contributed materially to the success.¹⁰⁹

Over half of the forces at Rommel's disposal were Italian, bringing with them the interoperability challenges inherent in combined operations. Differences in culture, language, doctrine, training, equipment highlight these challenges. The Wehrmacht Major General Mueller-Hillebrand, writing studies for U.S. Army Europe after World War II, stated that the capture of Tobruk in June 1942 denoted the high-point of collaboration between German and Italian ground forces..¹¹⁰ The thorough examination of

¹⁰⁹ Historians McGregor Knox, James Sadkovich, and Richard Carrier are among those that have challenged the stereotyping of the Italian army as incompetent and incapable.

¹¹⁰ Burkhard Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," 1954, Foreign Military Studies, Box 135, item P-108 pt. 2, U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA, 44.

this collaboration, or interoperability, allows for the determination of the degree of impact it had on operational success.

Panzer Army Africa's, and the wider Axis as necessary, actions within the framework of the unique principles of multinational interoperability, namely unity of effort, freedom of action, flexibility, initiative, and maintenance of morale, are to be outlined in detail utilizing the human, procedural, and technical domains of interoperability in the discussion of each principle.

Unity of Effort

Unity of effort emphasizes the requirement to ensure all means are directed to a common goal. —North Atlantic Treaty Organization, Allied Joint Publication-1, *Allied Joint Doctrine*

This principle is tied closely to unity of command, or the appointment of a single overall command structure to direct operations. The selection of a single command is not always possible in a multinational operating environment for various reasons. However, it is still the preferred method of achieving unity of effort according to NATO doctrine.¹¹¹ While the discussion in Chapter 1 centered on the command structure of and above Panzer Army Africa, this section focuses on the command structure's effect on achieving unity of effort.

¹¹¹ NATO, AJP-01, I-12.

Human

There are two very prominent roles in the human domain when attempting to achieve unity of effort: the commander, and the liaison officer (LNO). The commanders at each echelon are responsible for directing their forces to achieve objectives. LNOs provide the commander the means to coordinate those actions both laterally and vertically across headquarters, which is especially important when those elements are composed of different nationalities. Rommel's role as the operational ground commander for the NAT had the most impact on unity of effort.

Rommel displayed two unique abilities as a multinational commander. The first ability is Rommel's power of persuasion with regards to superior headquarters, both Italian and German. Rommel's power of influence over the German strategic command systems is evident in his successful attempt to lobby Hitler to reorder Malta and the Suez Canal in the strategic theater plan after the successful capture of Tobruk. Kesselring captured Rommel's influence over the Italian strategic command systems, stating ". . . Commando Supremo, under the influence of Rommel's optimism, had departed from the campaign plan comparatively light-heartedly."¹¹² The ability to influence the direction of the separate national commands above the Panzer Army Africa allowed Rommel to more easily achieve unity of effort in Panzer Army Africa's operations.

The second ability is Rommel's employment of each unit within their capability and capacity. While this is not unique to multinational command, it is essential to

¹¹² Albert Kesselring, "Final Commentaries on the Campaign in North Africa, 1941-43," 1949, Foreign Military Studies, Box 72, Item C-075, U.S. Army Heritage and Education Center Archives, Carlisle Barraacks, PA, 6.

multinational command. Major General von Holtzendorff credits Rommel for his deft utilization of Italian formations within their combat capabilities as a significant contribution to success in the NAT.¹¹³ It is readily apparent that Rommel treated each Italian corps separately based on their abilities. At the same time, the Italian X and XXI Corps participated in the Battle of Gazala as part of the fixing force, Rommel assigned the Italian XX Corps to the striking force. Even within the XX Corps, Rommel understood the capabilities of the Ariete and Trieste Divisions, demonstrated by utilizing the first as part of the assault force and the second as a screening force during the fight for Tobruk on 20 June 1942. A true understanding of each nations' and units' unique capabilities enables unity of effort, with a knowledgeable directing each unit towards an achievable tactical objective that supports the operational objective. The commander cannot execute this ability alone with any reasonable hope for operational success.

LNOs play an invaluable role in assisting commanders in exercising these abilities in the multinational environment. The Panzer Army Africa made pervasive use of both German and Italian LNOs between headquarters of differing nationalities.¹¹⁴ LNOs can provide the cultural, doctrinal, training, and equipment expertise relevant to their nation that the commander may not possess. Commander's that leverage this expertise as Rommel did with his Italian LNO, General Count Calvi de Bergolo, utilize their forces in a manner consistent with capability and capacity. Proper performance of

¹¹³ Hans-Henning von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," 1947, Foreign Military Studies, Box 79, Item D-024, U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA, 6.

¹¹⁴ Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 34-35.

the roles of commander and LNOs significantly increase unity of effort in their own right, but more so when the proper procedures are in place.

Procedural

Examining the effectiveness of command structures above and within the army demonstrates the procedural aspect of Panzer Army Africa's unity of effort. As noted in Chapter 1, the Panzer Army Africa's command structure operated with a lead nation approach. Meanwhile, the command structure above Panzer Army Africa was an Italian lead nation approach given Italy had the predominant national interest in the NAT. However, in practice, the strategic command structure operated as a parallel command structure because of Hitler's influence over the Axis powers in Europe. National caveats exacerbated the ineffectiveness of the multinational structure.

The stipulations of the coalition agreement between Germany and Italy for the use of their German forces in the NAT are the chief cause for the procedural dysfunctions in the Mediterranean multinational hierarchy. The principal stipulations were (1) the local Italian commander (i.e., the Italian Commander and Chief Libya) would exercise tactical control over all forces in their area, (2) German forces would not be employed in units smaller than division in size, (3) German forces in the field were to remain under German command, and (4) that the commander of German forces retained the ability to appeal the directives of the local Italian commander if the directives would result in operational failure. Sewn into these stipulations was the eventual rise of Rommel as the field commander of Panzer Army Africa and his ability to manipulate the strategic level commanders, headquarters, and heads of state. These dynamics directly affected the unity of effort in Panzer Army Africa's operations, and in the Axis campaign for the NAT. Technical limitations prevented closer control of Rommel by the higher German and Italian commands, intensifying the lack of unity of effort between the strategic and operational levels.

Technical

Communications infrastructure and systems greatly impact the degree of unity of effort in a multinational force, as was the case in Panzer Army Africa. The disparity between German and Italian communications was so significant that the differing nations' radios were unable to communicate. The solution was simple. Rommel ensured LNOs brought with them their countries radio systems to enable communications between German and Italian staff.¹¹⁵ This solution allowed for parallel transmission of information, such as changes in mission or enemy disposition, which was essential to achieving unity of effort. When the solution failed, as it did on the night of 26-27 May 1942 in the Trieste division, the consequences were dire. The Italian XX Corps was unable to mass their combat power on the Bir Hacheim box on 27 May because of a missed radio transmission. While an imperfect solution, LNOs equipped with radios increased the communication capability of Panzer Army Africa, thereby increasing unity of effort.

Summary of Impacts

The principle of unity of effort was essential to Rommel's success in the NAT from May to June 1942. Although there were impediments to achieving unity of effort,

¹¹⁵ Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 61-62.

the Germans and Italians of the Panzer Army Africa developed solutions that achieved the unity of effort required for multinational interoperability within a combined field army. The two most essential factors in their solutions were the appointment of a single commander and employment of LNOs. Rommel, as an enduring single commander, learned the strengths and weaknesses of his Italian units and employed them effectively to achieve objectives. LNOs ensured the overcoming of differences in culture, language, and doctrine while bringing with them the necessary equipment to communicate. The effectiveness of these interoperability solutions stopped at the operational level.

Interestingly, the impediments to interoperability at the strategic level lacked a solution of a combined headquarters akin to the Allies' Supreme Allied Command concept, contributing to the ultimate strategic loss in the NAT. The maintenance of separate German and Italian strategic level commands inhibited attaining unity of effort. Rommel solely focused on the land war, believing that a British defeat in the land war would lead to the Commonwealth abandoning the Mediterranean maritime and air wars. Rommel's report with Hitler enabled his influence on strategic decisions – first to attack Gazala and Tobruk and second to continue the offensive and delay the invasion of Malta by going around or over his titular commanders. To the detriment of obtaining strategic victory, the strategic-level unity of effort deficiencies often enabled, not impaired, Rommel's freedom of action.

Freedom of Action

Freedom of action empowers commanders to pursue their designated missions and should minimize the restrictions placed on them. —North Atlantic Treaty Organization, Allied Joint Publication-1, *Allied Joint Doctrine* This principle of multinational interoperability reduces the oversight of higher headquarters to the minimum acceptable level that allows the higher headquarters to support or intervene as necessary while maximizing trust in subordinate commanders to accomplish their assigned missions or tasks. Providing freedom of action does not excuse commanders from their responsibility to the actions of their subordinates, nor does it relieve subordinates from their responsibilities to report and achieve the commander's intended objectives. Freedom of action came naturally to German commanders, such as Rommel, that developed professionally in a military that valued Auftragstaktik, which emphasizes mission outcome rather than the means used to accomplish the mission.

Human

Freedom of action is apparent in two specific aspects of Rommel's command method. General Ulrich Kleeman, the commander of the 90th Light Infantry Division under Rommel, best describes Rommel's method of command in a Foreign Military Study he authored.

During combat Gen[eral] Rommel basically designated the combat area by a circle on the [commander's] map, with the expected time of arrival. All other actions became the responsibility of the missioned [commander]. Rommel never gave a reason for his orders and the situation was always down talked. Nevertheless, troops and [commanders] were always confident because if the situation became extremely difficult Gen[eral] Rommel would always appear and somehow solve the problem.¹¹⁶

This method of issuing orders both enabled and hampered freedom of action. Rommel simultaneously allowed commanders to determine best how to accomplish the mission.

¹¹⁶ Ulrich Kleeman, "Foreign Military Study D-104," Foreign Military Studies, Box 82, Item D-104, U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA, 2.

Still, the lack of intent impaired their ability to achieve the intended effect through a more diverse set of means. Additionally, Rommel's habit of taking personal command in troubled situations restricted the freedom of action of his subordinate commanders. Despite the encroachment into division operations by the army commander, Kleeman paints a positive picture of Rommel as a superior that empowered subordinates.

There is little evidence that supports Rommel providing the same freedom of action to his Italian subordinates. Rommel preferred to place his headquarters with the Italian motorized corps and divisions so that he could issue the Italians oral orders face-to-face while giving orders to the German-lead DAK and Group Cruewell (fixing force at Gazala) over the radio.¹¹⁷ This close personal oversight from Rommel likely limited his Italian subordinates' freedom of action. From the German point of view, this level of supervision was necessary as the perception of the Italian commanders was that they could not often practically apply their doctrine.¹¹⁸

Rommel did not apply freedom of action universally to his subordinates. Given that Italian corps outnumbered their German counterparts three to one, Rommel likely stifled the freedom of action throughout most of his command. The evolving perception of the Italian World War II army provides reason to doubt the necessity of such suppression of freedom of action. However, Nazi Germany's overt racism perhaps influenced Rommel's oversight of the Italians.

¹¹⁷ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 20–21.

¹¹⁸ Albert Kesselring, "Italy as a Military Ally," Foreign Military Studies, Box 62, Item C-015, U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA, 11.

Despite the tensions of nationalism and racism natural to the two fascist countries, Rommel provided varying degrees of freedom of action to his subordinates because he preferred to leave the how-to firmly in their purview. While direct oversight can limit freedom of action, if only in perception, Rommel consistently moved from one point of friction to another throughout a battle. Rommel could not have done that if he did not trust in his subordinates' ability to use the freedom of action he granted. However, Rommel's freedom of action was impacted directly through the procedural aspects of combined warfare.

Procedural

The long lines of communication to the NAT provided a dual-edged sword regarding freedom of action. The first impact was on logistics. At the operational level of the NAT, this meant supplies and personnel being shipped or flown from ports in Italy and then transported by ground forward to Panzer Army Africa. The broader war in the Mediterranean theater meant that these shipments were under threat, and shipment space dwindled with every transport ship sank. A genuinely collaborative procedure for logistics at the strategic level to meet both German and Italian requirements reduced friction but ensured that neither country's forces received full sustainment.¹¹⁹ Subsequently, the need to capture supply depot's from the Commonwealth to continue offensive operations frequently limited Rommel's freedom of action.

¹¹⁹ Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 38.

Yet the long lines of communication provided a boon to freedom of action as well. The only reliable means of communication from Europe to the NAT was radio to Panzer Army Africa's headquarters, but Rommel preferred to lead from the front away from his headquarters. The result - Rommel's operations frequently outpaced the guidance from both Italian and German strategic-level commands, resulting in outdated directives reaching Panzer Army Africa at the front. With no relevant change in orders, Rommel was free to continue operations as he saw fit..¹²⁰ The procedural aspects of strategic-level logistics and command and control simultaneously inhibited and enabled Panzer Army Africa's freedom of action.

Internally, Rommel's procedure of issuing orders verbally or over the radio unintentionally reduced the freedom of action of his Italian subordinates. The reason for this is astoundingly simple; the Italians procedure relied exclusively on written orders.¹²¹ While this fact may appear trivial at face value, the effects on Italian corps and division staffs are not. Italian staff officers of varying experience, while capable, had to adjust to this difference in the operations process while in active combat and attempting to overcome a multitude of other interoperability challenges. This inhibited freedom of action by prolonging the operations process. Which, in turn, reduced the time available for the Italian Corps and Divisions to consider multiple courses of action to achieve their

¹²⁰ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 30.

¹²¹ McGregor Knox, "Italian Armed Forces, 1940-43," in *On The Effectiveness of Military Institutions*, vol. 3, ed. Allan Millet and Williamson Murray (Columbus: Ohio State University, 1986), 298.

objectives. Vital technical differences between the German and Italians exacerbated these adverse effects on Panzer Army Africa's internal freedom of action.

Technical

The differing equipment standards of Germans and Italians provided unique challenges, with simple solutions addressing some of the issues. One of the most unassuming of military tools is the map, but it is invaluable to operations. To enable a common operating picture across Panzer Army Afrika, the Germans made copies of the detailed Italian maps of the NAT.¹²² The common understanding of the terrain, friendly locations, and objectives facilitated by a single map enables freedom of action for commanders at each echelon. However, there were more complex equipment differences to overcome.

The Italians are widely accepted to have inferior quality equipment. However, there is a rising debate to the degree of inferiority, and James Sadkovich argues that Italian tanks were the equivalent of German and English tanks in the NAT.¹²³ Whether the tanks were inferior or not is of little consequence, the fact remains that German and Italian tanks were different with differing capabilities. The differences in tank and equipment technology added considerations for Rommel's decision making in their

¹²² Alfred Toppe, "Desert Warfare," Foreign Military Studies, Box 137, Item P-129 v.1, U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA, 80.

¹²³ Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942," 287-288.

employment.¹²⁴ These differences were enough to impede Rommel's freedom of action by dictating what units could be assigned various tasks. Coordinating and synchronizing these tasks required a viable radio network throughout Panzer Army Africa.

Lastly, Rommel gave the Italians a wide latitude with their communications systems, which were not interoperable with their German counterparts. The Italians operated their radios, training, communications plans, and encryption keys..¹²⁵ For the wider Panzer Army Africa, this meant that the only communications between Panzer Army Africa's Corps and Divisions were through LNOs. The consequences of this resulted in the Trieste Division not receiving the change in plan to go around Bir Hacheim on the night of 26-27 May 1942, and instead, they turned into the center of the Gazala Line. However, the intangible increase to Italian freedom of action by utilizing equipment and procedures familiar to Italian radio operators and the eventual establishment of a supply line to the Cauldron was worth this price. Overcoming key equipment differences by standardizing maps, task organizing relative to capabilities, and allowing parallel communications increased the freedom of action at the corps and division levels of Panzer Army Africa.

Summary of Impacts

Most constraints on Rommel's freedom of action stemmed from technical and procedural issues beyond his immediate control as the Axis field army commander in the

¹²⁴ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 4; Knox, "Italian Armed Forces, 1940-43," 318.

¹²⁵ Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 62.

NAT. The most significant of these seemed to be the perceived differences in German and Italian equipment and the subsequent logistics procedural issues of sustaining two nation's differing armies over a single line of communication. The impact of these constraints did not prevent operational success, nor significantly delay operations during this period.

In turn, Rommel provided a wide degree of freedom of action to his subordinate commanders. Rommel's orders format of identifying a mission, objective, and timing to his subordinates, regardless of nationality, provided the most impact in this regard. Yet the delivery method and his habit of traveling with the Italian divisions impacted the freedom of action. Martin Kitchen states that by the summer of 1942, Rommel's opinion of the Italians capabilities and capacities was improving – likely resulting in increased freedom of action compared to previous operations during the campaign for North Africa.¹²⁶ In all, Rommel's tactical level subordinates inherited the same degree of freedom of action that he possessed at the operational level, with minor impediments due to differing national and military culture norms.

Flexibility

Plans and procedures should be sufficiently flexible to respond to the unexpected and to empower commanders with maximum freedom of action. —North Atlantic Treaty Organization, Allied Joint Publication-1, *Allied Joint Doctrine*

¹²⁶ Martin Kitchen, *Rommel's Desert War* (Ney York: Cambridge University Press, 2009), 273.

The multinational principles of flexibility and freedom of action are intertwined, with the critical difference being that freedom of action is proactive while flexibility is reactive. Freedom of action applies to how a commander can employ his force. Flexibility applies to an organization's ability to react to the commander's perception of situational changes that require a response. A myriad of multinational factors influenced the flexibility of Panzer Army Africa.

Human

LNOs played a crucial role in providing flexibility to each echelon of command. German historical reports likely overstate their importance, claiming ". . . the Italians were 'hooked on,' and ... supported by 'corset stays' of ..." German LNO teams.¹²⁷ However, as the only established long-distance communication node between German and Italian headquarters, the role of LNOs was vital. The LNOs assigned to Italian headquarters were responsible for informing Rommel's headquarters of changes in situation, disposition, and strength every two hours..¹²⁸ The LNOs thus fulfilled a vital role in informing Rommel and without which would severely decrease Panzer Army Africa's flexibility.

A key factor inhibiting flexibility was the Italian officer and noncommissioned officer manning. With the exceptions of the battalions of the Ariete and Trieste Divisions, the average Italian battalion's officer corps possessed one or two regulars. They filled out

¹²⁷ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 17.

¹²⁸ Kleeman, "Foreign Military Study D-104," Foreign Military Studies, 2.

remaining billets with officers from the reserve. The noncommissioned officer corps had a similar problem, albeit regarding professional experience and not duty type. An Italian division commander noted that the reserve officers were receptive to learning, but there were ". . . notable deficiencies in professional preparation."¹²⁹ The result was an overtaxed regular officer corps in most Italian divisions that were unresponsive compared to the Ariete and Trieste, and German units of the Panzer Army Africa.

Procedural

Two procedural actions increased the flexibility of Panzer Army Africa's forces. The first was Rommel's use of nighttime for large scale maneuvers and repositioning.¹³⁰ While the night movement may be a feat of technology and technical interoperability today, in 1942, it was procedural. Rommel ensured common operating procedures to prevent compromise of the large-scale movement by a lack of light and radio discipline. These successful night movements led to complete surprise at the battles of Gazala and Tobruk.

Rommel's second feat of procedural interoperability was through task organization. His plans of attack from the Gazala Line and Tobruk made use of a fixing and striking force. The fixing force consisted, in both cases almost exclusively, of Italian light infantry divisions. While not able to keep pace with the motorized and mechanized maneuver fight, the combat credibility of these divisions held Eighth Army defenders in

¹²⁹ Knox, "Italian Armed Forces, 1940-43," 323.

¹³⁰ Toppe, "Desert Warfare," Foreign Military Studies, 82.

place and prevented Ritchie from massing against the striking force. The secondary effect of a dispersed Eighth Army was an increase in flexibility for Rommel's striking force.

Technical

Mussolini's decision to maintain and employ more Italian combat troops than his German ally in North Africa directly impacted Panzer Army Africa's operational flexibility. Mussolini desired to bring the Italian combat force structure to a total strength of sixteen divisions, knowing that the Italian war effort could only support a maximum of three armored divisions in the NAT.¹³¹ While Rommel was able to employ these divisions to gain a degree of tactical flexibility, the inability of Italian non-motorized divisions to keep pace with the motorized and armored forces of Panzer Army Africa severely inhibited operational flexibility. Rommel had to rely on

A complete lack of equipment standardization between Germany and Italy plagued Panzer Army Africa, making the maintenance effort divided strictly along national lines.¹³² This rigidity inherently decreased operational flexibility as damaged vehicles and equipment required evacuation to the nearest, nationality-corresponding maintenance point or depot instead of the nearest maintenance point. The consequences of the combined with the collaborative-but-insufficient logistics system are apparent when examining Panzer Army Africa's number of operational tanks at the end of June 1942. The army possessed only thirty-four Italian and ninety German functioning tanks,

¹³¹ Knox, "Italian Armed Forces, 1940-43," 311-312.

¹³² Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 40.

completely inadequate to provide operational or tactical flexibility in the planned advance to the Suez.¹³³

Summary of Impacts

The German-Italian army inherently lacked operational flexibility due to the preponderance of light infantry divisions. Rommel's use of LNOs, night movements, and task organization increased the flexibility that Panzer Army Africa lacked from a technical aspect. LNOs increased flexibility by maintaining communications channels, informing the common operating picture, and interpreting for and advising the various commanders. The ability to move at night enabled twenty-four-hour operations, removing the constraints usually imposed by limited visibility. Task organization increased the flexibility of those units capable of operational-level maneuver by affecting the employment of the Eighth Army. Rommel and his subordinate commanders routinely used this flexibility to their advantage.

The flexibility of the Italian and German units, Rommel, and his subordinate commanders are evident in their ability to overcome the operational failures that forced them into a hasty defense in the Battle of the Cauldron. The sequence of events in the Cauldron demonstrates the impact flexibility has at the operational level – overcoming adversity to achieve success. Rommel's decision and his subordinated ability to implement a successful hasty defense while simultaneously attacking Bir Hacheim required a tremendous amount of flexibility on the parts of Rommel, the DAK, and the

 $^{^{133}}$ Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942," 22.

Italian XX Corps. The flexibility existed in no small part due to the initiative of the Italian Trieste Division.

Initiative

Initiative is about recognizing and seizing opportunities. A commander should be given the freedom to use initiative and should, in turn, encourage subordinates to do likewise.

> —North Atlantic Treaty Organization, Allied Joint Publication-1, *Allied Joint Doctrine*

The multinational principle of initiative relates closely to freedom of action and flexibility, for both are prerequisites. A commander that does not have freedom of action or flexibility lacks both the authority and capability to utilize initiative. On paper, the strategic command hierarchy over Rommel was clear, but in practice was hobbled by inefficiencies and backdoors. Within Panzer Army Africa, Rommel's development in a system that practices Auftragstaktik should be of great value to fostering initiative. General Kleeman, the 90th Light Infantry Division commander, emphasized the value of initiative in the NAT. "The battle and Combat of by the G.A.C. [anglicized acronym for the DAK] was only possible because of the perpetuated idea and requirement to improvise in any situation."¹³⁴

Human

The Italian strategic command apparatus at times sought to limit Rommel's demonstrations of initiative, but at others completely embraced it. The efforts towards limitations are most clear in the events leading up to the December 1941 and January

¹³⁴ Kleeman, "Foreign Military Study D-104," Foreign Military Studies, 3.

1942 counteroffensive that quickly reversed the gains the Eighth Army had made between Tobruk and Benghazi. Both the Italian Commando Supremo in North Africa and the Italian Chief of Staff opposed Rommel's plan, which in turn prompted them to turn to Mussolini to limit Rommel's initiative. Nevertheless, Rommel launched the offensive within a couple of weeks of the Italian commanders' objections..¹³⁵ At other points in the campaign General Gariboldi, the Italian Commando Supremo, deferred to a change in plan Rommel issued without any consultation despite Gariboldi and Rommel agreeing on a different course of action less than thirty minutes prior..¹³⁶

Within Panzer Army Africa, there were varying degrees of initiative. The variations were partly due to Rommel's personality and to what degree operations proceeded favorably.¹³⁷ It was also due to the perception of subordinates' will to utilize initiative. In general, the German perception of Italian initiative was unfavorable. Statements such as "[t]he intermediate and lower-level commanders of the Italians were, with the exception of a few experienced colonial soldiers, lacking in initiative and adaptability" are common in German post-war documents.¹³⁸ In part, this can be attributed to the ratio of regular and reserve officers in most Italian units, as discussed

¹³⁵ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 15.

¹³⁶ von Holtzendorff, 16.

¹³⁷ Bastian Matteo Scianna, "Rommel Almighty? Italian Assessments of the 'Desert Fox' during and after the Second World War," *The Journal of Military History* 82 (January 2018): 130.

¹³⁸ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 17.

earlier. However, the Italian Chief of Staff General Roatta, during an internal study of the Italian army, noted a lack of initiative in the officer and non-commissioned officer corps as well.¹³⁹

Procedural

The two procedural aspects within Panzer Army Africa that influenced initiative were Rommel's orders and situational update reporting requirements. Rommel issued a mission, objective, and timing without giving the intent of the orders, as previously discussed. The lack of purpose negatively impacted subordinate initiative because subordinates did not understand what effect their unit was to accomplish beyond the task they received. Therefore, when unable to complete the assigned mission for any reason, it was impossible to derive another means of achieving the desired effects on the Eighth Army.

Rommel required situation updates at two-hour intervals, as previously discussed. These updates created a common understanding of the battlefield across Panzer Army Africa. This common understanding enabled the Trieste Division commander to proceed to clear a lane in the Gazala Line minefields to rejoin the striking force in the Cauldron and create a desperately needed ground line of communication for supply. It is worth noting that Rommel never ordered this specific action, but it was accomplished solely on the initiative of the Trieste Division commander.

¹³⁹ Knox, "Italian Armed Forces, 1940-43," 321-22.

Technical

A significant contributor to the timing of the 1942 summer offensive was the relative combat power of tanks. Rommel rarely achieved a theater-wide favorable combat ratio in armored forces with the Eighth Army. However, Rommel insisted on launching the offensive in the second half of May ". . . because he had never yet and never again would have such a favorable situation with respect to armor (approximately 300 German Panzers in addition to 100 Italian Panzers of a minimum combat value, as opposed to 600 British tanks)."¹⁴⁰ The inclusion of Italian armored forces in Rommel's combat ratio calculations demonstrates that the Italian army was a credible portion of the Panzer Army Africa and enabled Rommel's initiative.

Summary of Impacts

As a field army commander, Rommel's initiative was never truly stifled because of his willingness to circumvent the Italian and German commands and appeal to Hitler. Growing more and more concerned with the Russian front, Hitler was inclined to accept whatever proposals Rommel proffered. Rommel's circumventions often negatively affected the relationship between Rommel and his titular Italian and German commanders, but there was no commensurate reduction of Rommel's ability to wield initiative.

Internal to the Panzer Army Africa, there is evidence to support and weaken the claim that Italians lacked initiative. The Italian confusion over verbal, instead of written

¹⁴⁰ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 5.

orders, inhibited full use of initiative. However, success in the Cauldron would be unlikely without the initiative displayed by the Trieste Division in creating a trafficable route through the Gazala Line. There is also evidence indicates that Rommel regularly hamstrung the initiative of his subordinate corps and division commanders by withholding his intent. Therefore, the only option tactical commanders had to achieve success was to complete their prescribed mission. At least one example of initiative positively impacted the operational success of Panzer Army Africa. However, Rommel did not necessarily trust in his subordinates' ability to allow widespread use of initiative.

Maintenance of Morale

Maintenance of morale is essential for operational success. High morale depends on good leadership, which instills courage, energy, determination, respect and both for, and among, the personnel under command. —North Atlantic Treaty Organization, Allied Joint Publication-1, *Allied Joint Doctrine*

The myriad of influences on individual and collective morale can make an exhaustive analysis of this facet impossible. However, some of the most significant, tangible aspects of morale are easily studied. Among these are the environment, perception of the commander, and perception of equality between nations and units. "In the desert, as on no other theater of war, life was hard for officers and men alike.".¹⁴¹ Maintaining morale in such an oppressive natural environment while experiencing the "friction between Axis partners" in combat is not an easy task..¹⁴²

¹⁴¹ Toppe, "Desert Warfare," Foreign Military Studies, 95.

¹⁴² Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942," 312.

Human

Rommel, as the commander, is the central figure in the maintenance of morale and bore direct responsibility for influencing the morale of two distinct groups. The first group is the soldiers, non-commissioned officers, and junior to mid-grade officers of Panzer Army Africa. Rommel, as a senior commander, expressed personal responsibility to maintain their morale.¹⁴³ Colonel Kriebel, who served on the 15th Panzer Division staff as a major, observed that ". . . the troops had great confidence in Rommel's energy and his almost proverbial good luck. He knew how to impart his toughness, is optimism, and will-to-conquer to every soldier, down to the last man," and that Rommel "displayed especial skill in appraising the experience through which the troops passed.".¹⁴⁴ James Sadkovich, while dismantling Rommel as a soldiers' general, cites a single Italian tank commander's negative opinion of Rommel as both a "liar" and a "Prussian.".¹⁴⁵ The evidence seems to support that Rommel generally had a positive effect on morale at the soldier level. However, as those with command experience know – it is impossible to please everyone.

The second group Rommel bore responsibility for was the group he frequently interacted with, such as corps and division commanders, army-level staff officers, and LNOs. General Arena, commander of the Ariete Division, explained "the advantages of a

¹⁴³ Rommel, *The Rommel Papers*, 241.

¹⁴⁴ von Holtzendorff, "Reasons for Rommel's Successes in Africa 1941/1942," Foreign Military Studies, 39.

¹⁴⁵ Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942," 287.

morale and operational nature" in Rommel's practice of leading from the front.¹⁴⁶ However, Rommel is also known as "volcanically unpredictable" and for his "oftenunjustified choleric outburst," making him hard to work with closely..¹⁴⁷ The differences in opinions of Rommel's effectiveness in maintaining morale with his close subordinates fall on an almost universal love-or-hate dynamic, indicating that Rommel's effect on morale relied on the compatibility of personalities. However, the success Panzer Army Africa experienced in May and June 1942 proved a boon to morale despite any adverse effects caused by personality conflicts.

Procedural

Kesselring highlights the biggest negative effect the strategic and operational command structure had on Panzer Army Africa.

The greatest deficiencies in the command were caused by the contradictory views of the Axis supreme command agencies and the responsible commander in North Africa, Fieldmarshall [*sic*] Rommel. They led to local misunderstandings between the Italian and German commanders, mutual distrust and miscomprehended initiative.¹⁴⁸

Misunderstandings and distrust between Italian and German commanders affected morale negatively. Were the Italians going to follow the orders of Rommel or the Commando Supremo in North Africa that had titular command over Rommel? Would Rommel's audacious plan, executed on his initiative, receive the logistical support required from

¹⁴⁶ Knox, "Italian Armed Forces, 1940-43," 298.

¹⁴⁷ Knox, 298; Scianna, "Rommel Almighty? Italian Assessments of the 'Desert Fox' during and after the Second World War," 145.

¹⁴⁸ Kesselring, "Final Commentaries on the Campaign in North Africa, 1941-43," Foreign Military Studies, 64.

strategic level commands in Europe that disagreed with his operation? Questions, doubts, and misgivings such as these eroded the morale of commanders and staff officers in positions to view these tensions play out. After El Alamein and the Allied landings in the fall of 1942, these issues would come to a head.

Technical

While issues between the strategic- and operational-level commands sewed distrust, Rommel demonstrated his trust of the Italians in Panzer Army Africa from a technical perspective. "To avoid any indication of distrust Rommel forbade the monitoring of Italian radio messages, a customary and even required practice among German units elsewhere."¹⁴⁹ Such an act of trust undoubtedly fostered positive relations, which buoyed morale in turn.

Summary of Impact

Rommel's conscious efforts to maintain morale focused on the fighting man, expecting more professional senior commanders and staffs to approach operations with his sense of optimism. In this manner, Rommel successfully buoyed the morale of Panzer Army Africa. These efforts did not necessarily counter the adverse effects of fighting from one supply stockpile to the next in the hope that the necessary resources were capture before being destroyed. Additionally, Rommel's efforts to build trust in such a simple act as forbidding monitoring Italian radio transmissions fostered morale. Overall, morale had increased incredibly from the mass surrenders by Italian units in 1940.

¹⁴⁹ Mueller-Hillebrand, "Germany and Her Allies in World War II, Part 2," Foreign Military Studies, 62.

Discord between Rommel and strategic-level commands invited

misunderstandings and distrust but did not impact morale materially between May and June 1942. The capture of Tobruk in June 1942 increased morale and optimism from soldier-level to Mussolini, whose euphoria subsequently resulted in the approval to continue to the Suez Canal. Overall, Rommel's approach to morale as the commander did not acknowledge the subtle differences between German and Italian culture but instead mirrored a homogenous effort that would be employed by a unilateral commander.

Conclusion

The examination of the multinational principles is centrally focused on Rommel as the operational commander because his every decision, knowingly or unknowingly, impacted interoperability. From 26 May to 21 June 1942, Rommel successfully orchestrated a multinational LSCO that attained a strategic campaign objective. Those scholars, such as Sadkovich, that point to Rommel's defeats as evidence of his inability to command a coalition field army dismiss this period focusing on Rommel's initial encounters with the Italians in 1941 and his failures of late 1942 at El Alamein into 1943 in Tunis..¹⁵⁰ Their characterization of Rommel would be incapable of this masterful multinational operation to capture Tobruk. Rommel, from any vantage point, did not capture Tobruk alone.

The total force structure of Panzer Army Africa, Germans and Italians working in concert, attained the objective. The Italian X, XX, and XXI Corps were not the retreating,

 $^{^{150}}$ Sadkovich, "Of Myths and Men : Rommel and the Italians in North Africa , 1940-1942."

disintegrated colonial Italian X Army of 1940. The Italian soldiers, officers, equipment, and doctrine rose to the challenge of combined-arms desert warfare. While the combat effectiveness of the Italians may not have equaled that of the DAK, it certainly complimented the Germans. It prevented the Eighth Army from massing on the striking force even in the trap of the Cauldron. Panzer Army Africa, as any successful multinational force, achieved its operational objective despite interoperability challenges.

Several interoperability challenges actively worked against Rommel and Panzer Army Africa during this period. Chief among them was the nonexistent multinational strategic command structure. An integrated command structure similar to the Allies' theater-specific Supreme Allied Commands was not feasible given both Hitler and Mussolini's larger-than-life personalities and egos. However, the failed approach at a lead nation construct left too many loopholes to synchronize strategic and operational campaign objectives efficiently. A second factor that inhibited interoperability was a complete lack of equipment standardization that frustrated every aspect of logistics, including fuel, ammunition, and even food rations. The last significant factor working against Rommel and Panzer Army Africa was communications. Radio-less Italian Tanks conducting operations for a division and corps headquarters whose Italian radio system and ciphers did not transmit to the army headquarters' German radio systems provide ample challenges. These substantial factors were all working against Panzer Army Africa.

However, the German-Italian combined army overcame these issues to capture Tobruk through interoperability solutions elsewhere. The primary factor in overcoming these challenges was the multinational principle of unity of effort. Rommel successfully directed each unit, German and Italian, within the constraints of their capability, and the units accomplished their portion to defeat the Eighth Army at the Gazala Line and Tobruk. To complement unity of effort, Rommel granted every commander maximum freedom of action in accomplishing their mission by telling them what to do, not how to do it. Synchronizing the successive and simultaneous battles would not have been possible without commanders and LNOs at echelon overcoming the communications challenges facing Panzer Army Africa. Corps and division commanders adapted to differences in doctrine, training, and equipment between the German and Italian armies. LNOs provided a desperately needed capability to communicate between the different nations and provide relevant doctrinal and cultural expertise. These elements coalesced to provide a solution to the challenges facing Rommel's army.

While the multinational interoperability aspects of Panzer Army Africa were imperfect, they did not prevent operational success. Rommel, the DAK, and the Italian X, XX, and XXI Corps all share a claim on the successful capture of Tobruk from a British trained-led-and-equipped Eighth Army that forced Panzer Army Africa's retreat westward across Libya six months prior. Even Kesselring reluctantly admitted the importance of Italian contributions in the NAT, stating

No criticism will minimize the accomplishments of the German Army, Navy, and Luftwaffe employed in the Mediterranean area during the years between 1941 and 1943. These accomplishments may unhesitatingly be termed unique. The Italian units also share this praise in proportion to the limits set by their capacities.¹⁵¹

¹⁵¹ Kesselring, "Final Commentaries on the Campaign in North Africa, 1941-43," Foreign Military Studies 64.

The capacity of the Italians was far greater than a defeated Nazi general seeking to displace blame for failure credits, and greater than popular Anglo-American historical accounts of the Italian army of World War II describe. It was not a perfect performance by Rommel that captured Tobruk, nor ideal execution by the Germans or Italians; it was the adequate degree of multinational interoperability of the combined German-Italian Panzer Army Africa.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

Multinational Interoperability at the Operational Level

The thorough examination of multinational interoperability of Panzer Army Africa enables answers to the primary research question through careful extrapolation. Three factors of multinational interoperability definitively impact on operational success at the field army level during LSCO: Unity of effort, commanders, and LNOs, and retention of the multinational force at the proper echelon of command.

The principle of unity of effort is paramount to successful multinational operations at the field army level in LSCO. Unity of effort provides a common objective, the attainment of which surpasses many of the inherent barriers to interoperability. The unity of effort is more effective when nested at the strategic and operational levels. The disparity in the unity of effort between the relevant Axis strategic and operational level commands in North Africa emphasizes the degree to which unity of command provides unity of effort. Lastly, the principles of freedom of action, flexibility, and initiative all hinge on establishing unity of effort first.

Commanders and LNOs are invaluable to maintaining unity of effort while increasing freedom of action, flexibility, and initiative. Commanders bear the responsibility for ensuring their units are working towards the objective identified under unity of effort while exercising freedom of action, flexibility, and initiative and providing the same to their subordinates. LNOs are critical to the exercise of freedom of action, flexibility, and initiative because of their ability to solve or contribute to solutions for interoperability challenges within the human, procedural, and technical domains. LNOs are most effective when adequately manned and equipped to meet the demands and duration of large-scale combat.

Retaining the multinational aspect at the proper echelon is key to resourcing the appropriate commanders and LNOs. For example, Panzer Army Africa held the multinational aspect at the division level and above in the operations against the Gazala Line and Tobruk. The retention to this level ensured the lowest-ranking commander concerned with interoperability was a Major General equivalent, experienced in conducting unilateral high-level tactical operations and able to continue doing so with the added challenges of multinational interoperability. The second benefit was that the larger corps and division staffs provided LNOs with proper manning, equipment, and experience to meet LSCO requirements without detriment to their operations. The last and perhaps most important benefit was that tactical units fighting battles and engagements, such as brigades and battalions, were focused on missions for which they were adequately manned, trained, and equipped. Retention of the multinational aspect of the proper echelon is situation-dependent but requires strategic level consideration and is affected at the operational level through task organization.

The factors of unity of effort, commanders and LNOs, and retention of the multinational aspect to the proper echelon conclusively impact operational success at the field army level during LSCO. However, successful implementation of these three factors does not constitute operational success, just as tactical and operational success does not create strategic success. The broader set of principles and theories that dictate the sound application of unilateral employment of military power remain relevant to the multinational employment of military power.

Recommendations for Further Study

Multinational operations require continued study and research because this characteristic of the American Way of War will continue into future operations. The analysis and subsequent conclusions drawn from Panzer Army Africa in May-June 1942 support three different veins of continued research. The first follow's multinational interoperability's role in Rommel's defeat at El Alamein, the second examines the employment of large-scale tactical-level multinational forces, and the last considers the Allies experience in coalition warfare with the Italians in 1944-1945.

At the Battle for El Alamein, Rommel changed the task organization of Panzer Army Africa, attempting multinational interoperability between the corps and division levels in addition to the already existing army-corps relationship. Although the German-Italian army already possessed two years of multinational combat experience, the task organization change affected their performance. Research of this topic would examine the challenges and associated solutions that were employed at the tactical level to inform high tactical-level multinational interoperability, including NATO's multinational corps and multinational division concepts, in LSCO.

NATO also maintains multinational battalion-sized elements as part of its Enhanced Forward Presence initiative in the Baltics and Black Sea region. These battalions use a lead nation structure with companies and enablers from multiple contributing nations. All forces assigned to the Enhanced Forward Presence battalions rotate at a frequency determined by the contributing country. The purpose of the Enhanced Forward Presence program is two-fold: assure NATO members in the Baltic and the Black Sea regions of the Allies' commitment to mutual defense and increase deterrence through that wide-spread commitment. An examination of historical brigadeand-below multinational units, especially conducting LSCO, could provide conclusions and recommendations to enhance NATO's Enhanced Forward Presence program and American-led tactical-level multinational efforts globally.

NATO continues to draw interest from non-member nations and expand its membership; Georgia has vied for membership since the Russian invasion of 2008, and recently NATO admitted the Republic of Macedonia in 2019. New members of any alliance pose challenges unique to their nation's military, regardless of the stringent implementation of various standards. A historical case study of the incorporation of the Italian army into the World War II Allied effort in 1944 and 1945 could provide unique insights into rapidly incorporating new allies at the strategic and operational levels of war.

The study of multinational interoperability at the strategic, operational, and tactical levels provides valuable insights into American multinational efforts globally and especially to NATO. The examination of the interoperability effects of Panzer Army Africa's El Alamein task organization, historical examples of brigade-and-below multinational interoperability, and incorporation of the Italian military into the Allies in 1944 and 1945 provide a depth of knowledge at the strategic, operational, and tactical levels of multinational warfare. The continuous study of multinational operations is imperative to advancing the American profession of arms because of the unique multinational characteristic of the American Way of War.

GLOSSARY

- Field Army. A headquarters that is responsible for employing two or more corps in combat operations.
- Flexibility. Plans and procedures should be sufficiently flexible to respond to the unexpected and to empower commanders with maximum freedom of action.
- Freedom of Action. Freedom of action empowers commanders to pursue their designated missions and should minimize the restrictions placed on them.
- Human Domain. Those elements of interoperability that deal with human and cultural interactions. Examples are commanders, LNOs, religious accommodations.
- Initiative. Initiative is about recognizing and seizing opportunities. A commander should be given the freedom to use initiative and should, in turn, encourage subordinates to do likewise.
- Luftwaffe. The air forces of Nazi Germany.
- Multinational Force. A combined or composite military force of two or more nations through an alliance or coalition.
- Multinational Interoperability. The ability of a multinational force to conduct strategic, operational, and tactical warfare coherently, effectively, and efficiently to achieve objectives.
- Procedural Domain. Those elements of interoperability that deal with plans, techniques, and procedures. Examples are the planning process, standard operating procedures, and doctrine.
- Technical Domain. Those elements of interoperability that deal with technology. Examples are equipment, spare parts, ammunition, and fuel type.
- Unity of Effort. Unity of effort emphasizes the requirement to ensure all means are directed to a common goal.

Wehrmacht. The army of Nazi Germany.

APPENDIX A

PROMINENT PERSONS IN THE CASE STUDY

Adolf Hitler – Chancellor of the Third Reich government, referred to prominently as the Führer.

Benito Mussolini – Prime Minister of Italy, referred to prominently as El Duce.

Albert Kesselring – A Field Marshal (four-star equivalent) of the Wehrmacht. He served as the commander of the Nazi's southern front, known as O.B. Sud.

Ettore Bastico – A Marshal of Italy (four-star equivalent). He served as the commander of the Italian Supreme Command, the headquarters responsible for all land, air, and naval operations in Africa.

Erwin Rommel – Commander of the Panzer Army Africa. He spent most of the case study period in the rank of Colonel-General (three-star equivalent) but was promoted to Field Marshall by the end of the case study period. Of note, this thesis will make almost exclusive use of the Field Marshal title when mentioning rank.

Winston Churchill – Prime Minister of Great Britain.

Claude Auchinleck – A General. Commander in Chief of Great Britain's Middle East command.

Neil Ritchie – A Lieutenant General. Commander of the Eighth Army.

BIBLIOGRAPHY

- Gawrych, George W. *The 1973 Arab-Israeli War : The Albatross of Decisive Victory*. Leavenworth Papers Number 21. Fort Leavenworth, KS: U.S. Army Command and General Staff College, Combat Studies Institute, 1996.
- Greene, Jack, Alessandro Massignani, and Ulrich Blennemann. *Mare Nostrum*. 2nd ed. Watsonville: Typesetting, etc., 1990.
- Headquarters, Department of the Army. Army Doctrinal Publication 3-0, *Operations*. Washington, DC: Army Publishing Directorate, 2019.
- Holtzendorff, Hans-Henning von. "Reasons for Rommel's Successes in Africa 1941/1942," 1947. Foreign Military Studies, Box 79, Item D-024. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- Jackson, W.G.F. The Battle for North Africa. New York: Mason/Charter, 1975.
- Kesselring, Albert. "Final Commentaries on the Campaign in North Africa, 1941-43," 1949. Foreign Military Studies, Box 72, Item C-075. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- -------. "Italy as a Military Ally." Foreign Military Studies, Box 62, Item C-015. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- Kitchen, Martin. Rommel's Desert War. New York: Cambridge University Press, 2009.
- Kleeman, Ulrich. "Foreign Military Study D-104." Foreign Military Studies, Box 82, Item D-104. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- Knox, McGregor. "Italian Armed Forces, 1940-43." In On The Effectiveness of Military Institutions, Vol. 3, edited by Allan Millet and Williamson Murray, 267–350. Columbus: Ohio State University, 1986.
- Lewin, Ronald. *The Life and Death of the Afrika Korps*. New York: Quadrangle/New York Times Book Co., 1977.
- Lucas, James. Panzer Army Africa. San Rafael: Presidio Press, 1978.
- Mitcham, Samuel. Rommel's Greatest Victory. Novato: Presidio Press, 1998.
- MNDSE Romania. "Multinational Division Southeast." Accessed April 29, 2020. http://www.en.mndse.ro/.

Moorehead, Alan. African Trilogy. London: Hamish Hamilton, 1945.

- Mueller-Hillebrand, Burkhard. "Germany and Her Allies in World War II, Part 2," 1954. Foreign Military Studies, Box 135, Item P-108 pt. 2. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- North Atlantic Treaty Organization (NATO). "Allied Land Command Mission." Accessed October 27, 2019. https://lc.nato.int/about-us/mission.
- ———. Allied Joint Publication-01, *Allied Joint Doctrine*. Brussels: NATO Standardization Office, 2017.
- ------. Allied Joint Publication-3, *Allied Joint Doctrine for the Conduct of Operations*. Brussels: NATO Standardization Office, 2019.
- Rommel, Erwin. *The Rommel Papers*. Edited by B.H. Liddell-Hart. 15th ed. New York: Da Capo Press, 1953.
- Sadkovich, James. "Of Myths and Men : Rommel and the Italians in North Africa, 1940-1942." *The International History Review* 13, no. 2 (1991): 284-313.
- Scianna, Bastian Matteo. "Rommel Almighty? Italian Assessments of the 'Desert Fox' during and after the Second World War." *The Journal of Military History* 82 (January 2018): 125-146.
- Stumpf, Reinhard. "The War in the Mediterranean Area 1942-1943." In *The Global War*, edited by Ewald Osers, 629–840. Oxford: Claredon Press, 2001.
- Supreme Headquarters Allied Powers Europe. "Military Command Structure." Accessed April 29, 2020. https://shape.nato.int/military_command_structure.
- Toppe, Alfred. "Desert Warfare." Foreign Military Studies, Box 137, Item P-129 v.1. U.S. Army Heritage and Education Center Archives, Carlisle Barracks, PA.
- U.S. Joint Chiefs of Staff. Joint Publication 3-0, *Joint Operations*. Washington, DC: Joint Chiefs of Staff, 2018.
 - ——. Joint Publication 3-16, *Multinational Operations*. Washington, DC: Joint Chiefs of Staff, 2019.