

AD-A225 417

DTIC FILE COPY

**Attack and Defense:
Black and White, or Shades of Gray?**

**A Monograph
by
Major Steven N. Read
Armor**

DTIC
ELECTE
AUG 21 1990
S D D



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas**

First Term, AY 89/90

Approved for Public Release; Distribution is Unlimited

90-3176

90 00 20 032

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USAC&GSC	6b. OFFICE SYMBOL (if applicable) ATZL-SWV	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) Fort Leavenworth, Kansas 66027-6900		7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS		
		PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
		WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) Attack and Defense: Black and White, or Shades of Gray? (U)				
12. PERSONAL AUTHOR(S) MAJ Steven N. Read, USA				
13a. TYPE OF REPORT Monograph	13b. TIME COVERED FROM TO	14. DATE OF REPORT (Year, Month, Day) 90/01/06	15. PAGE COUNT 47	
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP		
			attack, warfare, defend/defense, offense, active defense, counterattack, Yom Kippur War	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
This monograph discusses the dynamics of attack and defense at the tactical level in mid- to high- intensity mechanized warfare. It examines the dynamics in theory, doctrine, and recent historical experience. Based on theory, with a focus on Clausewitz, seven propositions are derived. These propositions define the characteristics of, and mutual exclusion between, attack and defense. The propositions are then used to evaluate the dynamics of attack and defense in AirLand Battle doctrine and the 1973 Yom Kippur War. The monograph concludes that attack and defense are not mutually exclusive. Both consist of the same multi-dimensional elements. It is the dynamics of these elements that determine the relative benefits classically.				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL MAJ Steven N. Read			22b. TELEPHONE (Include Area Code) (913) 684-2138	22c. OFFICE SYMBOL ATZL-SWV

19. Abstract (continued)

accorded to either attack or defense. Finally, it finds that the AirLand Battle framework of deep, close, and rear operations further modifies the classical dynamics.

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

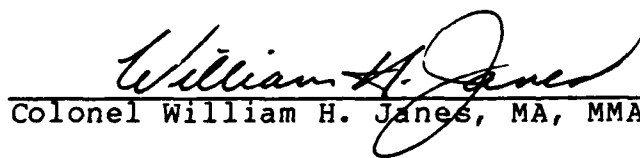
Major Steven N. Read

Title of Monograph: Attack and Defense: Black and White,
or Shades of Grey?

Approved by:



Lieutenant Colonel Thomas E. Mitchell, MPA Monograph Director



Colonel William H. Jones, MA, MMAS

Director, School of
Advanced Military
Studies



Philip J. Brookes, Ph.D.

Director, Graduate
Degree Program

Accepted this 26th day of March 1990

ABSTRACT

ATTACK AND DEFENSE: BLACK AND WHITE OR SHADES OF GRAY?
by MAJ Steven N. Read, USA, 47 pages.

This monograph discusses the dynamics of attack and defense at the tactical level in mid- to high-intensity mechanized warfare. It examines the dynamics in theory, doctrine, and recent historical experience.

Based on theory, with a focus on Clausewitz, seven propositions are derived. These propositions define the characteristics of, and mutual exclusion between, attack and defense. The propositions are then used to evaluate the dynamics of attack and defense in AirLand Battle doctrine and the 1973 Yom Kippur War.

The monograph concludes that attack and defense are not mutually exclusive. Both consist of the same multi-dimensional elements. It is the dynamics of these elements that determine the relative benefits classically accorded to either attack or defense. Finally, it finds that the AirLand Battle framework of deep, close, and rear operations further modifies the classical dynamics.

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. Attack and Defense in Theory	5
III. Attack and Defense in ALB Doctrine	14
IV. The 1973 Yom Kippur War Experience	20
A. Golan Front	20
B. Sinai Front	24
V. Analysis	29
VI. Conclusions	34
Maps:	
A. Major Operations, Golan Heights, 6-7 Oct 73	37
B. Major Operations, Golan Heights, 8-24 Oct 73	38
C. Major Operations, Sinai, 6-14 Oct 73	39
D. Major Operations, Sinai, 15-24 Oct 73	40
Endnotes	41
Bibliography	45

I. INTRODUCTION

Field Manual 100-5, Operations, the U.S. Army's keystone warfighting manual, characterizes the next mid-to high-intensity battlefield as chaotic, intense, and highly destructive.¹ It will be a battlefield of increased weapon range and lethality. It will involve more varied forces, of larger size, and with greater dispersion. It will consist of engagements and battles over larger areas, for longer durations, and of wider scope. These are not new trends, but they are trends that have occurred consistently at least over the last 200 years with the rise of technology.² These trends will make it a much different battlefield than those on which past battles were fought, particularly the battles of the Napoleonic era on which most classical military theory is based.

Despite these changes, one aspect of battle appears constant. Battle involves attacking and defending; one force attacks another which, in response, defends. The dynamics of these actions, attack and defense, lies at the basis of tactics. All our doctrinal manuals, from company/team through corps to our keystone manual, divide and discuss tactical operations according to this distinction.

This paper focuses on the dynamics of attack and defense in mechanized warfare at the tactical level. The thesis of this paper is that the nature of modern combat has changed the dynamics of attack and defense. Traditionally, the dynamics are viewed as mutually exclusive, or black and white. Certain characteristics, advantages, and disadvantages accrue to one side or the other solely due to the form of combat it adopts, attack or defense. It is this exclusiveness that gives rise to theorists and practitioners alike attributing superiority of one form over the other at various periods of history. AirLand Battle (ALB) doctrine echoes classical military theory in this respect. However, if the dynamics of attack and defense have changed, and if attack and defense are blended into shades of gray, then this classical basis is incorrect.

This paper argues three points. First, attack and defense are not mutually exclusive. Second, both attack and defense consist of the same multi-dimensional elements. Third, it is the dynamics of those elements that determine the relative benefits traditionally accorded to each form.

I will examine the dynamics of attack and defense in theory, doctrine, and recent historical experience. Based on classical military theory, focusing on Clausewitz, I will derive several propositions that

define the characteristics and mutual exclusion of attack and defense. These propositions will then be tested against U.S. Army doctrine and historical experience to determine their consistency with theory.

This paper does not seek to determine the stronger form of combat or weigh all the relative merits of attack and defense. Rather, it examines their dynamics to determine what characteristic elements, advantages, and disadvantages apply to each part and can be used with either form.

To begin, some qualifiers and definitions must be established. This paper only addresses the dynamics of attack and defense at the tactical level. Much of what has been theorized applies at the operational and/or strategic levels.

We cannot discuss attack and defense without starting definitions. This is not as simple as it sounds. Although we can generally look at a battle in retrospect and distinguish attacker from defender, none of our tactical manuals completely define the terms. Field Manual 101-5-1 defines three terms of concern to us.

Attack is defined using the phrase "offensive action." A complete definition requires looking at both attack and offense. Combining these, we arrive at attack as a combat operation characterized by movement supported by fire designed primarily to destroy the enemy, and undertaken to seize, retain, and exploit the initiative.

It may also secure terrain, deprive the enemy of terrain, deceive and/or divert the enemy, develop intelligence, and hold the enemy in position.³

Defense is defined as "a coordinated effort by a force to defeat an attacker and prevent him from achieving his objectives."⁴ Thus defense is defined in opposition to attack.

Finally, counterattack is an:

attack by a part or all of a defending force against an enemy attacking force, for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units, and with the general objective of regaining the initiative and denying to the enemy the attainment of his purpose in attacking.⁵

These definitions will serve as the basis as we will look at theory, doctrine, and history.

II. ATTACK AND DEFENSE IN THEORY

Clausewitz provides the most extensive analysis of attack and defense among the classical military theorists. In On War he devotes over a third of his effort to this analysis. He devotes a book each to attack (book VII) and defense (book VI), and provides further discussion in his books on strategy (book III) and the engagement (book IV). My focus will be on his observations. The observations of Jomini and Ardant du Picq will then supplement those of Clausewitz.

Clausewitz says the defense is the stronger form of war. It seeks to preserve, a negative but easier object, while the offense seeks the harder positive object of conquest.⁶ That is the strategic relationship. Our concern is with the existent qualities he discusses in the domain of tactics.

Clausewitz first distinguishes between attack and defense by their objectives or ends. He identifies four objectives of offensive engagements as the destruction of enemy forces, conquest of a locality, conquest of an object, or misleading the enemy. In response, the defender has three objectives: destruction of the enemy, defense of a locality, or defense of an object. Defense of a locality may be either absolute, if it is not to be given up, or relative, if it is only to be held for a

certain time.⁷ The first objective, destruction of the enemy, is common to both attack and defense, and according to Clausewitz, should always dominate.⁸ The next two objectives are in direct opposition to each other in terms of seizing and denying, however, the primary means is still the first objective, destruction of the enemy. The attacker's fourth objective has no counterpart in the defense, as the defender does not defend to avoid being mislead.

This same mixture of commonality and opposition exists in the parts that make up both attack and defense. Both consist of two identical, yet distinct parts. Clausewitz begins his discussion of defense by stating that it consists of two complementary elements, waiting and acting.

What is the concept of defense? The parrying of a blow. What is its characteristic feature? Awaiting the blow. It is this feature that turns any action into a defensive one; it is the only test by which defense can be distinguished from attack in war.⁹

Waiting alone does not make up defense. Acting is a necessary complement. Attack is an inherent part of defense:

if we are really waging war, we must return the enemy's blows; and these offensive acts in a defensive war come under the heading of 'defense'... in a defensive battle, we can employ our divisions offensively. Even in a defensive position awaiting the enemy assault, our bullets take the offensive. So the defensive form of war is not a simple shield, but a shield made up of well-directed blows.¹⁰

Indeed, the counterattack is "inherent in defense...one of its essential features."¹¹

Everything Clausewitz discusses about defense ties back to this key point. All the advantages and disadvantages relate back to waiting and acting. It is from the main feature of waiting that defense gains its chief advantage.¹² That advantage is time. The "time which is allowed to pass unused accumulates to the credit of the defender."¹³ And elsewhere "the time that passes is lost to the aggressor. Time lost is always a disadvantage that is bound in some way to weaken him who loses it."¹⁴ Time is an ally to the defender for two key reasons. First, for every moment of time that passes in defense, the defense is holding and therefore denying the attacker his aims. Second, the defender is able to use the time to strengthen his position.

Attack also has two components, but unlike defense, they are not complementary.

In the same way, the attack is not a homogeneous whole; it is perpetually combined with defense. The difference between the two is that one cannot think of defense without that necessary component of the concept, the counterattack. This does not apply to the attack. The offensive thrust or action is complete in itself. It does not have to be complemented to defense; but dominating considerations of time and space do introduce defense as a necessary evil.¹⁵

Thus just as defense consists of two elements, which could be termed pure defense and counterattack, so attack has identical, but distinct elements in attack and

defense. Clausewitz summarizes this dialectic "where two ideas form a true logical antithesis, each complementary to the other, then fundamentally each is implied in the other."¹⁶ However, while the counterattack strengthens the defense as its complement, defense weakens attack as a burden.

Clausewitz sees three things in tactics, which are not independent of the form of combat, as producing decisive advantages: surprise, the benefit of terrain, and concentric attack. For these three elements, he concludes only a small part of surprise and concentric attack favor the attacker, while their larger part, and all the benefit of terrain, favor the defender.¹⁷ The attacker has the advantage of being able to surprise the defender by his choice of time and place of attack, and with his force. Additionally, he is able to use his initiative to gain advantageous positions on the defender's flanks and rear. Conversely, the defender can surprise the attacker throughout the battle by his counterattacks and the disposition of his forces.¹⁸ Also, once the attack develops, it is itself vulnerable to flank and rear counterattacks. Thus the attacker has the benefits of surprise and concentric attack initially and against the whole of the defense, but the defender gains those benefits subsequently against the parts of the attacker.

Clausewitz firmly believes that the defender primarily benefits from terrain.¹⁹ He says terrain affects military operations in three ways: as an obstacle to the approach, as concealment from observation, and as cover from fire.²⁰ The benefit of terrain enables the defender to realize his advantages of surprise and concentric attack. The defender reaps these advantages because while he is waiting he can prepare the battlefield, and it is the attacker who must move, overcoming obstacles and exposing himself. Thus we can see again the importance of the characteristic feature of waiting, and its main realization at the tactical level, the benefit of terrain utilization. The use of terrain leads to the primary advantage of defense, the occupation of prepared positions. Clausewitz recognizes that any type of fortifications, an element only available to the defender, is a force multiplier.

Appropriate use of individual fieldworks can make up for lack of natural strength at some point, permitting one at will to determine the broad outlines of the engagement in advance. These are the reinforcements that art can provide. Combining them with the correct choice of natural obstacles...and the advantages that derive from knowing the battlefield while the enemy does not, with our ability to conceal our arrangements better than he can, and, in general, with our superiority in means of surprise in the course of the action, can make the influence of terrain itself overpowering and decisive...it is in our opinion one of the greatest advantages of defensive war.²¹

This aptly roles up all the advantages of the defense that accrue from the concept of waiting, and its

corollary, the benefit of time. It also shows the important link that the use of terrain holds in realizing those advantages. But Clausewitz cautions that the use of terrain and fortifications by themselves are not sufficient. The keystone of defensive theory is to "never depend completely on the strength of terrain and consequently never to be enticed into passive defense by a strong terrain."²²

The attacker also has advantages. By definition, Clausewitz gives the initiative to the attacker. The attacker has the initiative in time, place and force of attack because he initiates the combat.

Tactically every engagement, large or small, is defensive if we leave the initiative to our opponent and await his appearance before our lines.²³

Just as waiting is the characteristic feature of the defense, so its antithesis, initiative, defines attack.

Jomini, like Clausewitz, lists the primary advantage for the attacker as the initiative in choice of time, place, and force for attack.²⁴ Furthermore, he equates the advantage of surprise solely with attack.²⁵ The attacker's disadvantages include the effects of terrain and the disorder inherent in attacking, particularly under fire. On the balance, he feels the advantages and disadvantages of attacking at the tactical level cancel out, so that neither side benefits intrinsically. This is because the smaller space of tactical operations and

the inability to conceal major movements minimize the effects of both advantages and disadvantages at the tactical level.²⁶

Jomini also agrees that offensive elements are an essential part of defense. In fact, he considers all the advantages of defensive preparation and the use of terrain as mere "palliatives."

Every army which maintains a strictly defensive attitude must, if attacked, be at last driven from its position; but if it takes advantage of the benefits of the defensive system and holds itself ready to take the offensive when occasion offers, it may hope for the greatest success.²⁷

Finally, there is general disagreement on the relative merits of attack and defense in the moral sphere. Jomini says "the assailant generally has a moral advantage over the assailed and almost always acts more understandingly."²⁸ Ardant du Picq also attributes a moral advantage to advancing.²⁹ This attitude was perhaps taken to an extreme with the French army's offensive elan and Foch's "offense a outrance" prior to World War I. But Clausewitz didn't see the same significance in any such moral force. While recognizing a certain moral benefit to a feeling of superiority that comes with attacking, he minimized its effect compared with the stronger effect of success or failure. Several modern theorists on the moral domain of battle also minimize any such effect.³⁰ Therefore, attack and

defense cannot be defined or distinguished by any moral effects.

The above discussion leads to seven theoretical propositions on attack and defense. These propositions define the zone of exclusion that distinguishes attack and defense in theory. While many of the propositions are stated in terms of advantages or disadvantages, no absolute benefits are implied by the adoption of either attack or defense. Rather, they represent potential benefits.

Proposition 1: The objectives or ends of attack and defense will be identical or in direct opposition. If in opposition, then the primary ways are still identical. Attack and defense cannot be distinguished in terms of their primary ends and ways, which is the defeat or destruction of the enemy. In terms of secondary ends, opposition exists between seizing and holding.

Proposition 2: The attacker has the advantage of initiative. The defender, in his choice of the defense, forfeits the initiative and must take some subsequent offensive action to gain or regain it.

Proposition 3: Surprise initially favors the attacker, and subsequently the defender. By virtue of his initiative, the attacker can surprise the defender. Unless the defender preempts the attack, he cannot draw on the benefit of surprise, either by his disposition or by offensive action, until the attacker attacks.

Proposition 4: Concentric attack or advantageous maneuver initially favors the attacker, and subsequently favors the defender. Like surprise, this relates back to initiative. In his choice of the time, place, force, and method of attack, the attacker has the opportunity to create or exploit flank and rear attacks. Once the attacker commits, he exposes himself to such action by the defender.

Proposition 5: Time accrues to the benefit of the defender. The burden of action is on the attacker. Any delay, anything that slows or impedes the attacker, benefits the defense. Even if the defender does not use the time, he is successful at least until the attacker acts.

Proposition 6: Terrain and fortifications favor the defense. This is the primary initial strength of defense and is realized by the use of time while waiting. It is this benefit that enables the counterattack, or offensive part of defense, to be effective.

Proposition 7: Attack and defense are both made up of identical complementary yet distinct elements: attack consists of both pure attack and defense as part of the attack, and defense consists of both pure defense and counterattack. The counterattack strengthens the defense. Defense, as part of the attack, weakens the attack.

III. ATTACK AND DEFENSE IN ALB DOCTRINE

Tactical offensive and defensive operations are discussed in all the maneuver force field manuals up through and including the corps level (FM 100-15). All of these manuals are based on and supplement FM 100-5, Operations. FM 100-5 explains how the U.S. Army plans and conducts battles and engagements, serves as the U.S. implementing document for mid- and high-intensity tactical doctrine, and provides the basic body of tactical principles as a foundation for tactics, techniques, and procedures.³¹ FM 100-5 provides the basis for attack and defense in AirLand Battle doctrine. The subordinate maneuver unit manuals supplement that guidance.

The primary purpose of attack is to defeat or destroy enemy forces. FM 100-5 lists seven general purposes of offensive operations: defeat enemy forces, secure terrain, deprive the enemy of resources, gain information (reconnaissance in force), deceive and divert the enemy (diversionary attack), hold the enemy in position (feint and demonstration), or disrupt an enemy attack (spoiling attack). Manuals below that level focus on the defeat or destruction of enemy forces, stating the other "purposes are secondary and only serve to support these primary purposes."³²

The primary purpose of defense is to stop or defeat the attacker. Again, FM 100-5 lists several general purposes, including defeat an enemy attack, gain time, concentrate forces elsewhere, control terrain, wear down the enemy, and retain objectives, but the "immediate purpose of any defense is to defeat the attack. Other purposes, while important, are ancillary."³³ The discussion of tactical defense and lower manuals corroborate a focus on destroying enemy forces and regaining the initiative.³⁴

Doctrine, like theory, gives the initiative to the attacker. Initiative is defined as "setting or changing the terms of battle by action" and "implies an offensive spirit."³⁵ The defender is admonished to "[turn] the tables on the attacker...to negate the attacker's initial choice of time and place of attack...[and] cause the initiative to pass to the defender."³⁶ As a principle of war, the offensive is defined as "seizing, retaining, and exploiting the initiative."³⁷

Successful attack is characterized by surprise, concentration, speed, flexibility, and audacity. Concentration and flexibility are also defensive fundamentals.³⁸ Audacity is an attribute required of the commander in attacking. Thus, only surprise and speed distinguish attack per se.

Surprise is implied as an attribute of attack. While a characteristic of successful offenses, it is not even

discussed under defensive operations. Surprise is achieved by "striking the enemy," an offensive connotation, "at a time or place, or in a manner, for which he is unprepared."³⁹

Surprise and speed are related. The effect of surprise is only temporary, so the attack must move rapidly. FM 100-5 repeats "Clausewitz's warning that time not used by the attacker benefits the defender."⁴⁰ The attacker must maintain momentum and a high tempo to prolong the effects of surprise and keep the defender from responding. Doctrine emphasizes that any delay makes the defender harder to defeat.⁴¹

Successful defense is characterized by preparation, disruption, concentration, and flexibility. Preparation and disruption are distinct from attack. Preparation arises from awaiting the attack. The defender reaps benefits by using the time available to prepare positions and gain knowledge of the ground. Disruption is also related to time. The defender disrupts the synchronization of the enemy's operation to slow his momentum, prevent his concentration in space and time, and to create the conditions for his defeat.⁴²

Clausewitz's characterization of the defense as a "shield of blows" provides the foundation of our defensive doctrine. Doctrine fully incorporates the complementary concepts of waiting and acting.⁴³ It also recognizes two types of attack from a defensive

posture. The defender conducts counterattacks to defeat an enemy attack after it is launched, or regain lost ground. He conducts spoiling attacks to disrupt an enemy attack before it is launched.⁴⁴ The corps operations manual expands on this concept. It distinguishes defensive actions as reactive or proactive. Reactive actions react to enemy success by destroying a penetration or reinforcing the main battle area. Planned counterattacks or spoiling attacks to seize, or create the conditions to seize, the initiative, and achieve decisive results, are proactive. Reactive actions are the minimum necessary for successful defense; proactive actions are preferred.⁴⁵

In the discussion of the concept of culminating point, another Clausewitzian concept, FM 100-5 points out the weakness of defense after an attack.

Defensive preparations are hasty and forces are not adequately disposed for defense. Reorganization for defense requires more time than the enemy allows. Usually the attacking forces are dispersed, extended in depth, and weakened in condition. Moreover, the shift to defense requires a psychological adjustment... Finally, attacks rarely culminate on ground ideally suited for defense.⁴⁶

Thus, just as it recognizes two elements in defense, doctrine recognizes a weakened defense within the context of attack. However, this concept is not developed elsewhere. And while a distinction is made between hasty and deliberate attacks according to the amount of preparation involved, no similar distinction is made at

the higher tactical levels, for defenses based on the amount of time, preparation, or condition.⁴⁷

Finally, ALB doctrine adds a concept to the dynamics of attack and defense that is missing in classical theory. That is the framework of battle. The framework applies equally to offensive and defensive operations. It distinguishes between deep, close, rear, security, and reserve operations. The concepts of deep, close, and rear are the new elements and directly affect the dynamics of attack and defense.

Deep operations comprise activities directed against enemy forces not in contact designed to influence future close operations. They shape and isolate the battlefield, limit the enemy's freedom of action, and alter the tempo of operations in favor of friendly operations. Deep operations include deception, deep surveillance and target acquisition, interdiction, and command, control, and communications countermeasures. Such operations deprive the enemy of resources, gain information, deceive and divert the enemy, and disrupt the enemy.⁴⁸ They also destroy enemy forces. Thus, deep operations are distinctly offensive in nature. Whether the force is attacking or defending, deep operations seize, retain, and exploit the initiative beyond the close battle.

Close operations involve the "current fight." They include all the operations that are inherent in attacking

or defending: maneuver, indirect fire, counterfire, close air support, command and control, and the combat support/combat service support of committed units.⁴⁹ The traditional dynamics of attack and defense occur in the close battle.

Rear operations comprise activities rearward of elements in contact designed to assure freedom of maneuver and continuity of operations.⁵⁰ "They are, in effect, the defense against the enemy's deep operations."⁵¹ Whether the force is attacking or defending, rear operations are defensive in nature. They await, and then act upon offensive action taken by the enemy.

IV. THE 1973 YOM KIPPUR WAR EXPERIENCE

The October 1973 Yom Kippur War is one of the most recent examples of mid- to high-intensity combat. As such, it offers many insights into the dynamics of attack and defense on the modern battlefield. Tactically, operations on the Golan Front were distinct from those on the Sinai Front. Each front will be reviewed separately.

GOLAN FRONT

At 1400 hours on 6 October, the Syrians attacked with three infantry divisions supported by over 900 tanks in the first echelon, and two armored divisions with an additional 800 tanks in the second echelon. The Israelis opposed them with two reduced strength armored brigades, about 170 tanks, behind a line of seventeen strongpoints manned by infantry platoons, and a twenty mile tank ditch stretching from Mt. Hermon south to Rafid. All Israeli units were initially under BG Eitan.

In the southern sector, the main Syrian effort comprising two divisions broke through the Israeli defenses astride Rafid, bypassed the fortified positions, and advanced along four divergent axes. Outnumbering the Israeli Defense Force (IDF) 188th (Barak) Brigade 10:1 overall in tanks, the Syrians achieved local superiority of up to 12:1 as the Barak Brigade was forced to disperse to contain the widely separated thrusts.⁵² By dawn on the 7th, the Syrians had cut off the Rafid area and

driven into the Golan interior. By noon, less than 24 hours into the battle, the Syrian separate armored brigades and 1st Armored Division were committed.

In the north the Syrians initially outnumbered the IDF 7th Brigade about 5:1 in tanks. However, the antitank ditch and mines channelized them, creating easy targets for the concentrated tanks of the 7th, firing and moving from behind prepared berms. Only the Syrian infantry managed to penetrate a few kilometers.⁵³

The Syrian advance continued deeper in the south and reached its greatest depth the night of 7-8 October. The southern axis overlooked Lake Tiberias from within a few kilometers of El Al. The northern axes penetrated almost 30 kilometers to a line from Sanabir to Kafr Naffakh, where General Eitan's division headquarters was threatened. The Barak Brigade was totally destroyed as its last seven tanks concentrated to defend Naffakh.⁵⁴

Eitan had the 7th Brigade hold alone, despite heavy pressure, and sent the first reinforcements to the crumbling southern sector. On 7 October, MG Laner was given command of the southern sector, with Eitan retaining the north. On 8 October, BG Peled marshalled the arriving elements of a third division south of Lake Tiberias. As they arrived, elements of Laner's and Peled's divisions began to counterattack early on the 8th. Peled attacked northeast towards Rafid into the southern flank of the Syrian salient. His brigades

advanced slowly against well dug-in mechanized infantry deploying extensive antitank forces. Laner attacked the flanks at the head of the salient vicinity Sanabir and made better initial progress. The Syrian 1st Armored Division executed an effective withdrawal as the Israelis advanced 17 kilometers by nightfall.⁵⁵

During the night of 8-9 October the Syrians made one last attack on the Golan Heights. The 3rd Armored Division sent another brigade against the 7th Brigade, now down to about battalion strength. It was the fifth different brigade to assault the 7th during almost sixty hours of continuous combat. The battle lasted seven hours as the beleaguered Israelis ran down to only seven operational tanks and a couple rounds of ammunition. As they prepared to withdraw, a reinforcing company of thirteen tanks arrived and brought flanking fires to finally break the Syrian attack. The general initiative had switched to the Israelis.⁵⁶

To the south, Laner's division finally took Khushniyah after three determined assaults and Peled repulsed a brief counterattack by the Syrians. On 10 October, Peled and Laner reestablished the pre-war cease-fire line. Behind them the Syrians left over 850 tanks on the Golan. That night the Israelis reconcentrated to the north.⁵⁷

On the 11th, the Israelis launched their counteroffensive with Eitan's and Laner's divisions.

Eitan's attack, just south of Mt. Hermon, surprised the Syrians since the terrain was considered too restrictive for tanks. The reconstituted Barak Brigade, having lost all its tanks and 90% of its commanders only four days previous, spearheaded the attack.⁵⁸ Eitan broke through the Syrian first defensive line and penetrated ten kilometers north of the Damascus road.

Difficult terrain confined both divisions to narrow roads on the 12th. Nonetheless, they advanced 20 kilometers against a skillful delay by the Syrians to a second defense line. The Syrians launched limited armor counterattacks and massed artillery fire on main roads to disrupt the Israelis. The time bought enabled them to contain the penetration. By nightfall, Syrian infantry held positions vicinity Sasa while armored forces formed on the flanks.⁵⁹

Early on 13 October the Israelis sent a small airmobile force 100 kilometers beyond Damascus. Supported by air attacks, the Israelis ambushed a large Iraqi force.⁶⁰ Meanwhile, the lead elements of that Iraqi division counterattacked Laner's flank. Spotting them deploying less than ten kilometers away, Laner redirected his attacking brigades back to the southwest and, with a fourth brigade just attached from Peled, formed an open box to ambush the Iraqis. The Iraqi force was destroyed, but the Israelis were prevented from outflanking the Syrians southwest of Damascus. This,

and effective use of artillery to attack Israeli supply convoys, brought the IDF to a halt.⁶¹ While the focus shifted to the Sinai, the Israelis defeated a Jordanian brigade counterattack on the 16th, and coordinated counterattacks by Syrians in the east and combined Jordanian-Iraqi forces in the south on 19-20 October.

SINAI FRONT

At the same time the Syrians launched their attack, the Egyptians attacked with elements of five reinforced infantry divisions all along the Suez Canal, confusing the Israelis with the lack of an apparent main effort. The 16th (Jerusalem) Brigade deployed about 600 men in the 16 forts of the Bar-Lev line, reinforced by Reshef's 14th Armored Brigade, to oppose this onslaught. Behind them lay MG Mandler's division with two reduced armor brigades. The Egyptians bypassed the forts and penetrated into the desert to neutralize the Israeli armor. Simultaneously, they airlifted commandos deep into the Sinai to further disrupt Israeli operations.⁶²

The Israelis immediately began launching a series of local tank counterattacks, as planned. Within thirty-six hours they had lost 160 of their 240 tanks in the Sinai. Instead of encountering expected tanks, they met a wall of antitank fire from deployed infantry.⁶³ The Egyptians had 70,000 men and over 600 tanks of the five infantry divisions and two separate armored brigades firmly in a bridgehead at least five kilometers deep. A

dense air defense system covered the area. The infantry deployed numerous antitank weapons, in many cases in dug-in positions reinforced by wire and mines.

As reinforcements arrived, the Israelis launched their first major counterattack on 8 October. The front had been divided into three division sectors late on the 7th, with MG Adan's division in the north, MG Sharon in the center, and Mandler taking over the south. In the northern sector, a brigade of Adan's division attacked with initial success, but as it neared the Canal, without ground, air, or artillery support, it was ambushed by Egyptian infantry. The Egyptians also defeated a second coordinated attack with two brigades in the afternoon. They followed this with a counterattack that met initial success before being stopped by the Israelis at nightfall.⁶⁴ Despite the reinforcements, only a few dozen Israeli tanks remained in front of the Egyptians in the northern sector of the Sinai.

From 10 to 12 October, both sides consolidated. As more reinforcements arrived, the Israelis changed tactics and formed combined arms forces to correct earlier errors.⁶⁵

Between 11 and 13 October, the two Egyptian armored divisions, previously held in reserve, crossed the Canal, bringing their tank strength east of the canal to over 1000 tanks. On 14 October they launched a massive attack. The 21st Armored Division, of 2nd Army in the

north, led the attack towards Bir Gifgafa, while reinforced elements of the 4th Armored Division, of 3rd Army in the south, attacked to seize the Mitla and Giddi passes. With over 1600 tanks and over 1000 other mechanized vehicles soon to be engaged, this initiated the largest tank battle since World War II. The Egyptian armor advanced beyond their air defense umbrella and the protection of their infantry antitank weapons. They were met by Israeli tanks waiting in concealed positions in the undulating desert terrain. Using multiple hull-down firing positions, flanking attacks, and close air support, the Israelis destroyed 300 tanks and beat back the attacks. The Egyptians were surprised on all axes by the defending Israelis.⁶⁶

This gave the Israelis the opportunity to finally seize the initiative. The night of 15 October, they launched their counteroffensive - Operation Gazelle - to cross the Canal. Sharon's division, with three armored and one airborne brigades, had to make the penetration through the 21st Armored Division, still with 200 tanks, and the 16th Infantry Division. The attack began at 1700 hours with a brigade diversionary attack north of the Tasa-Ismailia road to draw the 21st north. An hour later a second brigade, Reshef's brigade, reconstituted with seven battalions, moved southwest into a gap between the Egyptian 2nd and 3rd Armies that Reshef and the division reconnaissance unit discovered back on 8 October.

Reaching the Great Bitter Lake, it turned north and secured the crossing site vicinity Deversoir. The brigade(-) continued north to establish a blocking position in the rear of the Egyptian 16th Infantry and 21st Armored Divisions. There it ran into heavy tank fire and began a battle that would last through 17 October.⁶⁷

The road to the crossing was still blocked by the Egyptian 16th Infantry Division. One battalion of Reshef's force was sent east to open it, link up with the paratroopers, and lead them back to the crossing. This was done, though the road was not kept open. By 0300 hours, 16 October, a small bridgehead was established on the west bank. A battalion of tanks ferried across by noon. Despite an unsecure bridgehead, no bridge, and no open road east, Sharon directed the forces in the bridgehead to disrupt Egyptian operations west of the Canal, particularly the air defense system.⁶⁸

Though uncoordinated, the Egyptians launched extensive attacks on the east bank to eliminate the bridgehead. Reshef held these counterattacks as his brigade was reduced to less than battalion strength in tanks. Using alternating fire and movement, he engaged the Egyptians at maximum ranges and, through a slow battle of attrition, gradually gained ground.⁶⁹ Meanwhile, Sharon continued moving forces across the Canal as they fought through the Egyptian 16th Infantry.

A brigade from Adan's division fought its way to vicinity of the Chinese Farm and, with Reshef's remnants, defeated renewed counterattacks through 19 October. Responding to an intercepted radio message, Adan ambushed and defeated the 25th Syrian Separate Armored Brigade moving north. Calling it a "jumpout ambush," he combined defensive positions with flank maneuvers to channelize and destroy the Egyptians.⁷⁰ The last Egyptian counterattack was repulsed and the road to the crossing was open. Over 350 Egyptian tanks had been destroyed since the 14th. After dusk, Adan's division began to cross the Canal. The battle for the Sinai was essentially over.

V. ANALYSIS

AirLand Battle doctrine is based on a combination of theory, historical experience, and the capabilities of new technologies. Concerning the dynamics of attack and defense, doctrine primarily draws on classical military theory.

Like theory, doctrine recognizes the primary tactical objective of both attack and defense is the defeat of the enemy. There exists some divergence in terms of secondary objectives, but in few instances can attack and defense be distinguished by their objectives.

Doctrine is based on theory with respect to initiative and surprise. They are linked both to offensive action and to each other. For the defender to seize the initiative and achieve surprise requires some sort of offensive action. Although the defender can surprise an attacker with the strength or disposition of his defense, there is a theoretical disconnect with such action. Surprise is temporary. Without offensive action the defender can neither appreciably benefit from surprise, nor prolong it.

If doctrine is based on theory concerning the attack, it repeats theory with respect to the defense. The concepts of a shield of blows, and the benefit of time, are at the heart of defense in both theory and doctrine. The use of time for the preparation of terrain and

positions is emphasized. Offensive action is necessary at some point in the defense.

Like theory, doctrine views attack and defense in a dialectic sense of opposites. As forms of combat they are in opposition to each other. They are not viewed as a choice of complementary means along a continuum, as in firepower and maneuver, or attrition and annihilation. The choice of one form implies the exclusion of the other. At some point, part or all of the defending force may go over to the attack. At some point, the attack must revert to a defense. Subordinate units may attack within the scope of a higher unit's defensive operation, or defend to support a higher unit's offensive. But, it is one or the other, separated in time, space, and/or by unit.

Within this context, both theory and doctrine view the dynamics of attack and defense as sequenced pairs of four elements: defense and counterattack, and attack and the defense as part of the attack. The counterattack adds strength to the defense because it combines initiative and surprise with the benefits inherent in defense. In effect, it combines the best of both forms. The defense, as a "necessary evil" or "impending burden" in the attack, weakens the attack, because it forfeits the initiative without gaining significant defensive benefits. In effect, it combines the worst of both forms.

AirLand Battle doctrine does, however, add a new dimension to the dynamics that theory did not consider. That is the framework of battle, specifically, the relationship of deep, close, and rear operations. The traditional dynamics, changed or unchanged, apply only to the close battle. Regardless of the force disposition, deep battle equates to offensive operations or attack, and usually without the burden of a defense. Rear battle, likewise regardless of the force disposition, is primarily defensive in nature.

The recent historical experience of the Yom Kippur War confirmed, or at least did not deny, several of the theoretical propositions on the dynamics of attack and defense. The objectives of attack and defense remained consistent with theory. Initiative was seized and retained through offensive action. Despite the quick penetration of the Bar-Lev Line, the benefits of terrain and defensive positions were repeatedly demonstrated.

Although the attackers achieved significant surprise, it proved impartial to both the attacker and defender. The Egyptians owed as much to the surprise they achieved in defending their bridgehead as they did to that achieved in securing it. But clearly the defensive surprise was transient. Because the Egyptian defense was not active, the Israelis were able to recover and adjust in their subsequent counteroffensive. The Egyptians, however, might have been able to sustain that surprise

if they had adjusted their defense once the Israelis determined its nature.

Time was a mixed ally, shifting to benefit either the attacker or the defender according to his immediate and transient purpose. Thus when Laner quickly reacted to the Iraqi advance and established his ambush defense, time worked against him. The longer he waited for the Iraqis to attack, and they delayed for several hours after he was in position, the more likely his plan would fail. If the Iraqis determined his positions, they could outflank him. Each moment lost also reduced the opportunity for his continued advance to outflank the Syrians. Conversely, when the Egyptians counterattacked to eliminate the Israeli Canal crossing, time was working against them despite their overall defensive posture. Thus the tactical dynamics may create a dilemma at the operational level due to conflicting desires in the tempo of operations.

Perhaps the most significant experience was the relative effectiveness between the counterattack and the attacker's hasty defense. Generally, counterattacks were unsuccessful at the tactical level. This was primarily due to the lack of coordination and infantry support. But the astonishing speed at which both sides improvised effective defenses was also a major cause. A significant part of this was the effectiveness of the tank as a mobile, instantaneously effective defense, as opposed to

its classic offensive role. Even while attacking, the Israelis often fought from hasty defensive positions when they engaged other mechanized forces.

The historical example indicated a possible realignment within the theoretical sequenced pairs of defense and counterattack, and attack and its defensive part. The hasty defense in the attack was often able to retain the initiative while drawing on inherent defensive benefits. The strengths of the counterattack were accordingly reduced. As practical concepts, the counterattack and hasty defense in the attack are transitory and unstable by nature. A counterattack becomes an attack after some point, and in defending, the attacker eventually reverts to a defender.

VI. CONCLUSIONS AND IMPLICATIONS

Attack and defense are not mutually exclusive at the tactical level. Both consist of multi-dimensional elements. Defense can be as much a part of attack as attack is a part of defense. In the dynamics of attack and defense, it is the interrelationships of at least four elements at work, not two.

The nature of modern combat has changed those dynamics. Modern combat combines weapon systems with increased range, lethality, and tactical mobility. It involves forces that are larger, more varied, are fighting dispersed with the potential for massive concentration, and are fighting for longer durations. The synergism of all these factors causes a quantum jump in the dynamics of attack and defense.

Finally, the framework of battle adds a new dimension to those dynamics. Deep and rear operations have, respectively, offensive and defensive characteristics that transcend the close battle. These characteristics both reinforce and mitigate the theoretical characteristics of attack and defense in the close battle. This further increases the gap with the theoretical base.

What are the implications of these changes? First, doctrine should focus on the dynamic relationships. Attack and defense should not be treated totally separate

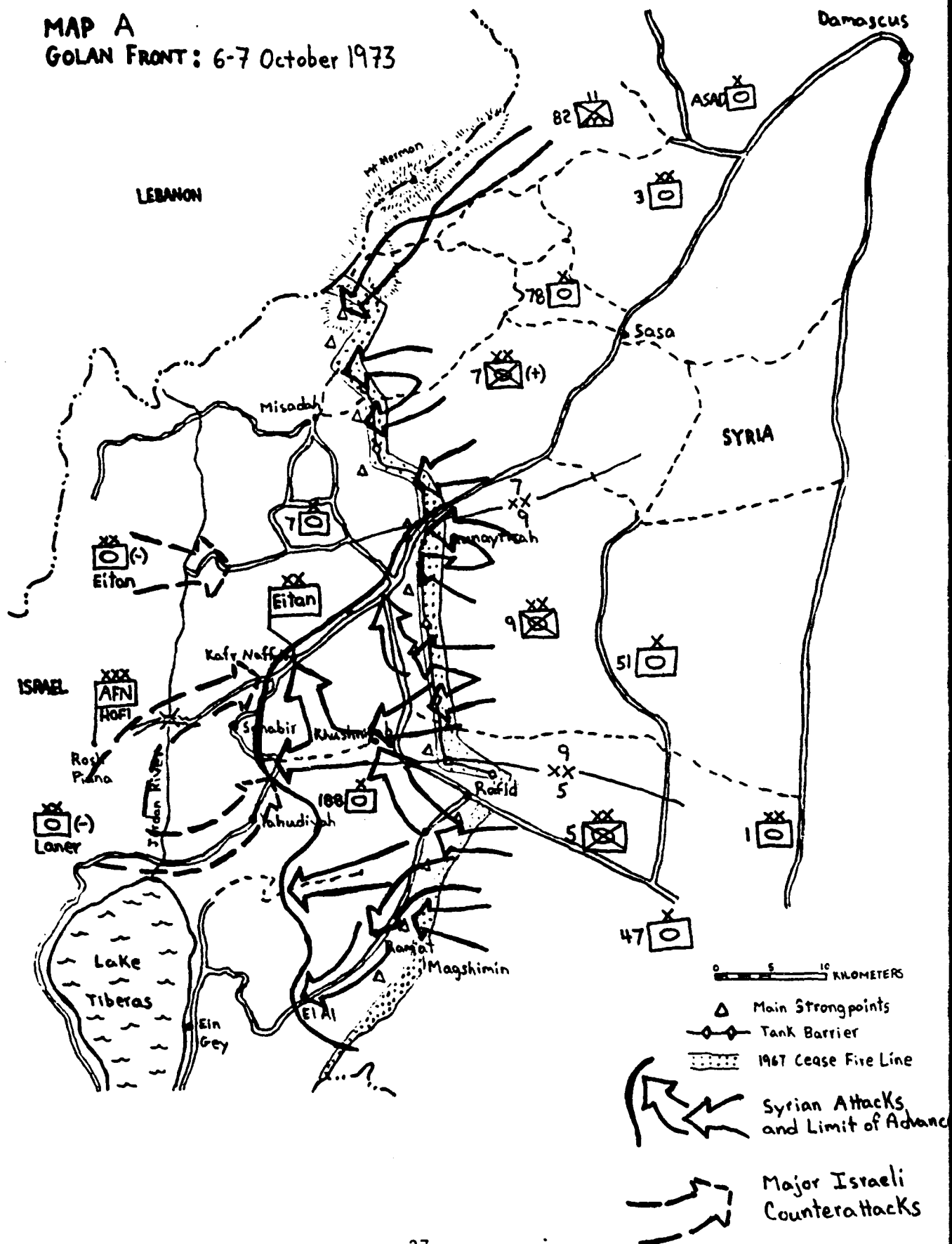
and distinct. Characteristics, advantages, and disadvantages should be examined within the dynamics in their own right, rather than as attributes of particular forms of war. We need to recognize the impact as the dynamics continue to change.

Second, the relationship of deep, close, and rear operations needs to be developed in the context of the dynamics of attack and defense. Deep operations are offensive. They generally focus solely on the destruction or disruption of enemy forces, although key terrain or installations may be held as part of a deep operation. However, since advancing is not an inherent part of deep operations as it is with attacks in general, many of the dynamics of attack and defense may be different. Similarly, while rear operations are defensive, they are a special case of defense. Both deep and rear operations need to be examined in terms of initiative, surprise, time, and the elements of attack and defense to determine how the dynamics may change for the total force, whether it is attacking or defending.

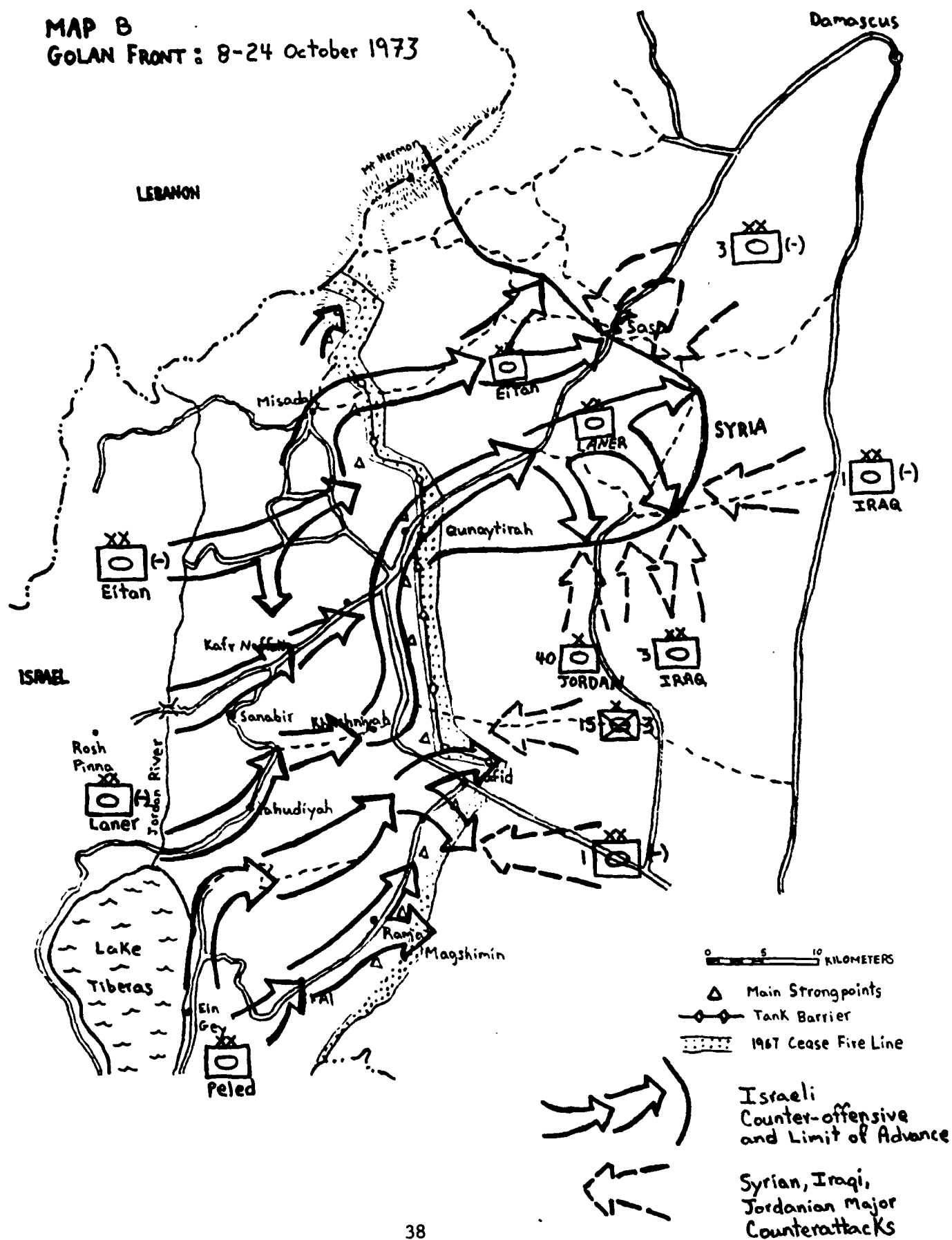
Finally, the dynamics of attack and defense at the tactical level impact on the operational level. The effect is not always in the same direction as at the tactical level. As units alternate between attack and defense, initiative, surprise, the benefits of time and terrain, and other factors also change. These changes may mount against the operational desires. Hasty

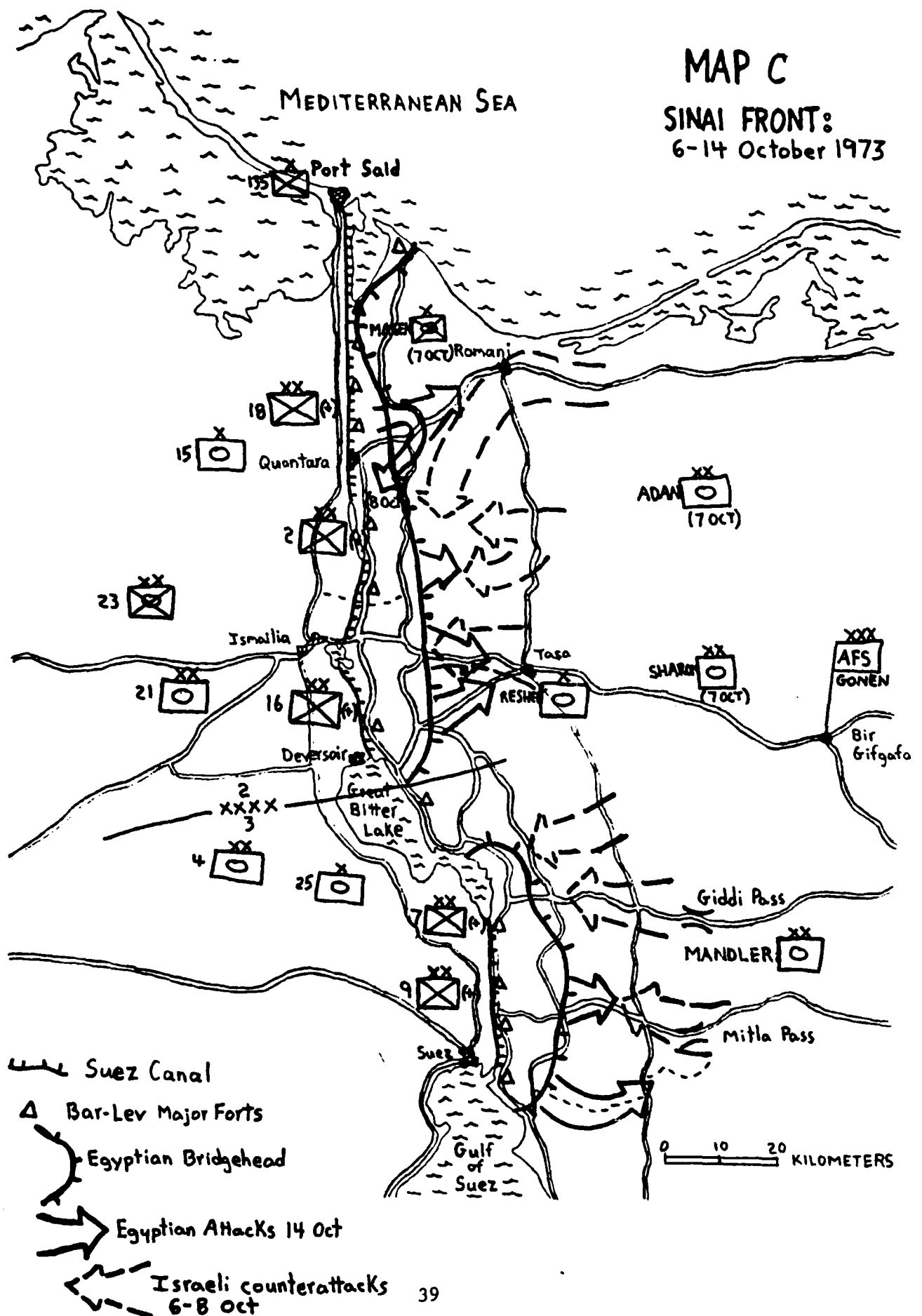
ambushes may forfeit valuable time and initiative in the offense. Counterattacks may forfeit the defender's advantage of time. The operational commander must consider the dynamics not only at his level, but also at the multiple tactical levels below him.

MAP A
GOLAN FRONT: 6-7 October 1973



MAP B
GOLAN FRONT: 8-24 October 1973

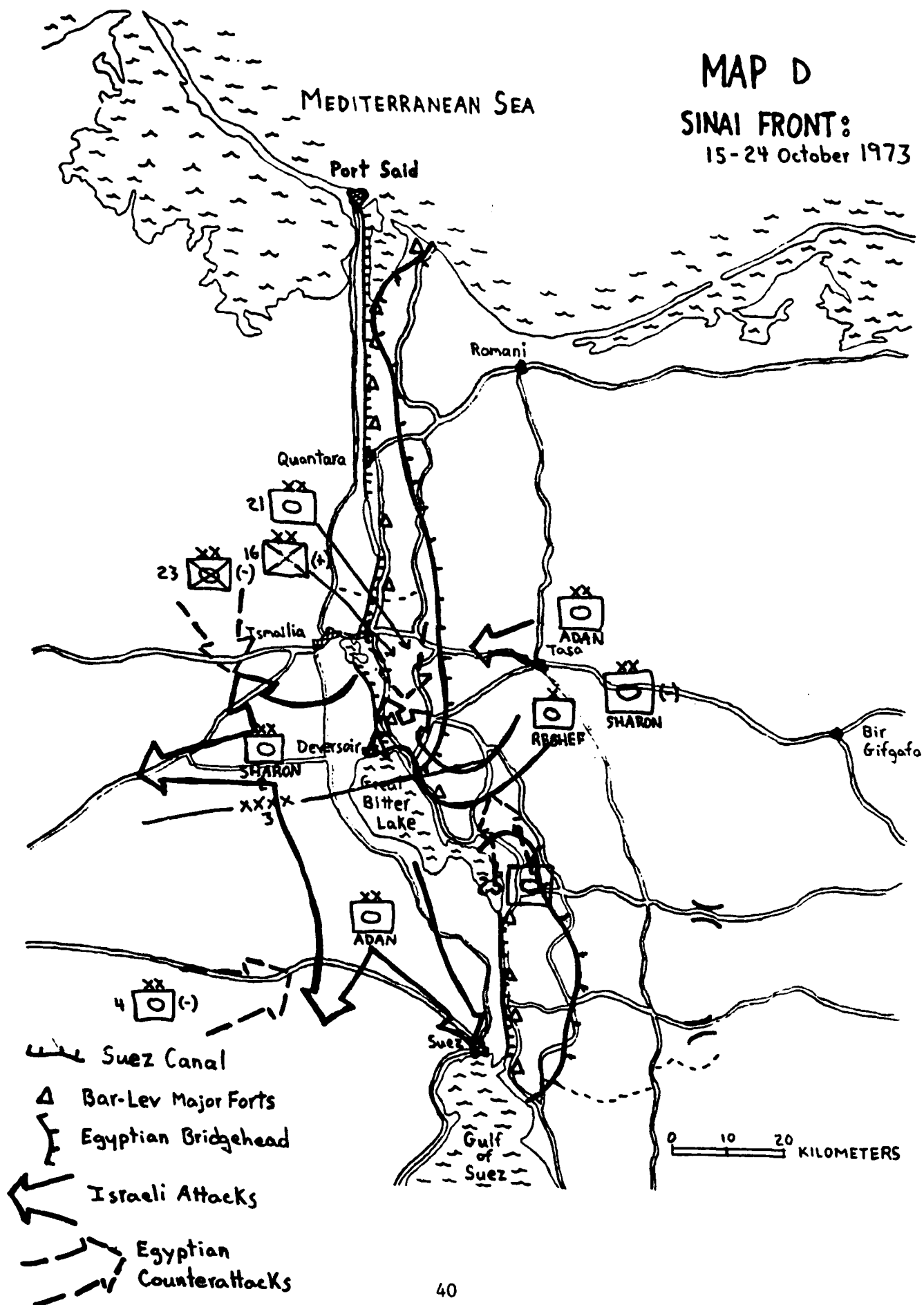




MAP D

SINAI FRONT:

15-24 October 1973



ENDNOTES

¹ U.S. Army Field Manual 100-5, Operations, Fort Leavenworth, KS, May 1986, pp. 2-4.

² James J. Schneider, "The Theory of the Empty Battlefield" in The Journal of the Royal United Services Institute, September 1987, pp. 37-45. See also T. N. Dupuy, The Evolution of Weapons and Warfare, Hero Books, Fairfax, VA, 1984.

³ U.S. Army Field Manual 101-5-1, Operational Terms and Symbols, Washington, D.C., October 1985, pp. 1-8 and 1-52.

⁴ Ibid., p. 1-23.

⁵ Ibid., p. 1-20.

⁶ Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret, Princeton, NJ, 1976, p. 358.

⁷ Ibid., pp. 236-237.

⁸ Ibid., p. 236.

⁹ Ibid., p. 358.

¹⁰ Ibid.

¹¹ Ibid., p. 370.

¹² Ibid., p. 379.

¹³ Ibid., p. 357.

¹⁴ Ibid., p. 383.

¹⁵ Ibid., p. 524.

¹⁶ Ibid., p. 523.

¹⁷ Ibid., p. 360.

¹⁸ Ibid., pp. 198, 360-61.

¹⁹ Ibid., p. 361.

²⁰ Ibid., p. 348.

²¹ Ibid., pp. 407-8.

²² Carl von Clausewitz, Principles of War, ed. and trans. by Hans W. Gatzke in Roots of Strategy, Vol. 2, Harrisburg, PA, 1987, p. 347.

²³ Clausewitz, On War, p. 358.

²⁴ Antoine Henri Jomini, The Art of War, ed. by BG J. D. Hittle, in Roots of Strategy, Book 2, Harrisburg, PA, 1987.

²⁵ Ibid., p. 497.

²⁶ Ibid., p. 513.

²⁷ Ibid., pp. 497 and 498.

²⁸ Ibid., p. 498.

²⁹ Ardont du Picq, Battle Studies, trans. by COL John N. Greely and MAJ Robert C. Cotton in Roots of Strategy, Vol. 2, Harrisburg, PA, 1987, pp. 150-51.

³⁰ Clausewitz, On War, p. 366. Anthony Kellest does not mention attacking or defending as a factor in Combat Motivation, Boston, MA 1982. See also Moran, The Anatomy of Courage, New York, NY, 1987; Baynes, Morale, New York, NY, 1988; and Marshall, Men Against Fire, Gloucester, MA, 1978. A general theme in all these books is that a moral inertia must be overcome to advance under fire. If anything, it is easier to defend than to attack, because attacking requires exposed movement under fire.

³¹ FM 100-5, preface.

³² Ibid., pp. 94-95, and FM 100-15, Corps Operations, p. 5-1. See also FM 71-100, Division Operations, p. 4-1 and FM 71-3, Armored and Mechanized Infantry Brigade, p. 3-1.

³³ FM 100-5, p. 131.

³⁴ Ibid., p. 141; FM 100-15, p. 6-1; FM 71-100, p. 5-1; and FM 71-3, p. 4-1.

³⁵ FM 100-5, p. 15.

³⁶ Ibid., see also pp. 129 and 134.

³⁷ Ibid., p. 173.

³⁸ Ibid., p. 95.

- 39 Ibid., pp. 95 and 176.
- 40 Ibid., p. 121.
- 41 Ibid., pp. 15, 80, 97 and 117.
- 42 Ibid., pp. 131-132.
- 43 Ibid., pp. 139 and 144.
- 44 Ibid., pp. 116-117 and 128.
- 45 FM 100-15, p. 6-5.
- 46 FM 100-5, p. 182.
- 47 The concepts of hasty and deliberate defenses are developed at the company team level and below. See FM 71-1, Tank and Mechanized Infantry Company Team, pp. 4-16 and 4-25.
- 48 FM 100-5, pp. 19-20, 37-39, and 106.
- 49 Ibid., p. 19.
- 50 Ibid., pp. 20-21, 39 and 107.
- 51 Ibid., p. 39.
- 52 Chaim Herzog, The Arab-Israeli Wars, New York, 1984, pp. 286-288.
- 53 Ibid., p. 289; and Jerry Asher and Eric Hammel, Duel for the Golan, New York, 1987, pp. 59-60.
- 54 Asher and Hammel, pp. 135-139.
- 55 Ibid., pp. 150-152, 183-194.
- 56 Ibid., pp. 203-209, 223.
- 57 Herzog, pp. 291-193.
- 58 Ibid., p. 296.
- 59 RB 100-2, Vol. 1, Selected Readings in Tactics: The 1973 Middle East War, Ft. Leavenworth, 1976, p. 3-11.
- 60 Ibid., p. 5-9.
- 61 Herzog, pp. 300-301.
- 62 Ibid., pp. 241-243.

⁶³ Ibid., pp. 247-250.

⁶⁴ Avraham Adan, On the Banks of the Suez, San Francisco, 1980, pp. 135-153; Herzog, pp. 253-254.

⁶⁵ RB 100-2, Vol. 1, p. 4-11.

⁶⁶ Herzog, pp. 259-261.

⁶⁷ Ibid., pp. 263-264.

⁶⁸ Ibid., p. 269.

⁶⁹ Ibid., pp. 265-266.

⁷⁰ Adan, pp. 298-303.

BIBLIOGRAPHY

BOOKS

- Adan, Avraham. On the Banks of the Suez. San Francisco: Presidio Press, 1980.
- Aron, Raymond. Clausewitz: Philosopher of War. Translated by Christine Booker and Norman Stone. Englewood Cliffs, NJ: Prentice Hall, 1985.
- Asher, Jerry and Eric Hammel. Duel for the Golan. New York: William Morrow and Company, Inc., 1987.
- Baynes, John. Morale: A Study of Men in Combat. Garden City Park, NY: Avery Publishing Group Inc., 1988.
- Bidwell, Shelford and Dominick Graham. Firepower: British Army Weapons and Theories, 1904-1945. Winchester, MA: Allen and Unwin, Inc., 1985.
- Clausewitz, Carl von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.
- Clausewitz, Carl von. Principles of War. Edited and translated by Hans W. Gatzke in Roots of Strategy, Book 2, Harrisburg, PA: Stackpole Books, 1987.
- du Picq, Ardant. Battle Studies. Translated by COL John N. Greely and MAJ Robert C. Cotton in Roots of Strategy, Book 2. Harrisburg, PA: Stackpole Books, 1987.
- Dupuy, Trevor N. Numbers, Predictions and War. New York, NY: Bobbs-Merrill Company, Inc., 1979.
- Dupuy, Trevor N. The Evolution of Weapons and Warfare. Fairfax, VA: Hero Books, 1984.
- Dupuy, Trevor N. Understanding War. New York, NY: Paragon House Publishers, 1987.
- Eshel, David. The Yom Kippur War. Israel: Eshel-Dramit Ltd., 1978.
- Handel, Michael L., editor. Clausewitz and Modern Strategy. London: Frank Cass and Company Ltd., 1986.
- Herzog, Chaim. The Arab-Israeli Wars. New York, NY: Vintage Books, 1984.

Insight Team of the London Sunday Times. Insight on the Mideast War. London: Andre Deutsch Ltd., 1974.

Jomini, Antoine Henri. The Art of War. Translated by BG J. D. Hittle in Roots in Strategy, Book 2. Harrisburg, PA: Stackpole Books, 1987.

Kellett, Anthony. Combat Motivation. Hingham, MA: Peter Smith, 1978.

Luttwak, E. N., and Horowitz, D. The Israeli Army. New York, NY: Harper and Row, 1975.

Marshall, S.L.A. Men Against Fire. Gloucester, MA: Peter Smith, 1978.

Moran, Lord. The Anatomy of Courage. Garden City Park, NY: Avery Publishing Group, Inc., 1987.

Shazly, LTG Saad el. The Crossing of the Suez. San Francisco: American Mideast Research, 1980.

MANUALS

FM 71-1, Tank and Mechanized Infantry Company Team. Washington, D.C.: Headquarters Department of the Army, 1988.

FM 71-2, The Tank and Mechanized Infantry Battalion Task Force. Washington, D.C.: Headquarters Department of the Army, 1988.

FM 71-3, Armored and Mechanized Infantry Brigade. Washington, D.C.: Headquarters Department of the Army, 1988.

FM 71-100, Divisions Operations (approved final draft). Washington, D.C.: Headquarters Department of the Army.

FM 100-5, Operations. Washington, D.C.: Headquarters Department of the Army, 1986.

FM 100-15, Corps Operations (approved final draft). Washington, D.C.: Headquarters, Department of the Army, 1988.

FM 101-5-1, Operational Terms and Symbols. Washington, D.C.: Headquarters Department of the Army, 1985.

Reference Book 100-2, Vol. 1, Selected Readings in Tactics: The 1973 Middle East War. Ft. Leavenworth, KS: U.S. Army Command and General Staff College, August 1976

ARTICLES

Schneider, James J. "The Theory of the Empty
Battlefield." Journal of the Royal United Services
Institute for Defense Studies, September 1997.