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Woods To Sand:

*Operational Considerations for the
Employment of a European Based
Division in a Contingency in the Middle East*

**A Monograph
by**

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Infantry**



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ABSTRACT

WOODS TO SAND: OPERATIONAL CONSIDERATIONS FOR THE EMPLOYMENT OF A EUROPEAN BASED DIVISION IN A CONTINGENCY IN THE MIDDLE EAST by LTC James W. Townsend, USA, 39 pages.

This monograph examines the employment of a European based U.S. heavy division in a contingency in the Middle East. Applicable theory is described and developed against the historical lens of armored campaigns in desert regions and then is used to develop the research paper's product: employment considerations.

The strategic setting of the Middle East demands sustained attention from the United States. We can expect continued trouble and violence resulting from the diverse religious, cultural, economic, and military pressures within the area. We will most likely see United States interests in protecting sovereign nations and encouraging peace in the region. Thus, one can envision the application of the military element of power. Since the diminished Soviet threat in Europe no longer fixes divisions in position, a heavy division could be available for employment in the adjacent theater, the Middle East. Because European based divisions do not train in a desert setting, the deployment to the Middle East would involve dramatic changes in geography and climate that are useful to analyze because of their impact on operations.

The criteria introduced to develop the analysis are the dynamics of combat power: maneuver, firepower, protection and leadership. These are examined from theoretical and historical frames of reference that include the German World War II North African campaign, Arab-Israeli wars, and the recent Iran-Iraq War. From this analysis several conclusions emerge. These include the need to concentrate against an enemy flank, the usefulness of firepower to destroy enemy will, the need to hide the force, and the severe demands on leadership imposed by the harsh environment.

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I. INTRODUCTION

The Middle East is a vivid example, however, of a region in which, even as East-West tensions diminish, American strategic concern remains. Threats to our interests--including the security of Israel and moderate Arab states as well as the free flow of oil - come from a variety of sources.¹

As we see from the quote above, taken from President George Bush's March 1990 National Security Strategy of the United States, we have clearly stated strategic interests in the Middle East. It has been an area of importance to us since World War II when Americans fought and died to defeat the tyranny of Hitler in the region. The Middle East has been of special interest to the United States since 1973, when OPEC imposed an oil embargo directed at influencing the political process of the United States. This occurred at a time when our national consumption of oil had increased to the point where we were dependent on oil from the Middle East.

Not only is economics a driving force in our strategic view of the Middle East, our nation remains committed to the support of the principles of sovereignty and democracy. As the President stated in March 1990, our nation has "always felt a powerful sense of community with other nations that shared our values."² This view leads us to oppose those nations who would attack smaller and weaker neighbor states. Unfortunately, driven by differing economics and cultural views, we face many potential conflicts in the Middle East. These have been well

illustrated by conflict throughout the region--Arab-Israeli, Iran-Iraq, Syria in Lebanon, and Iraq against Kuwait.

Thus, the strategic setting of the Middle East demands attention from the United States. Even when the current crisis with Iraq is concluded, we can expect trouble and violence resulting from the diverse religious, cultural, economic, and military pressures within the region.³ Concurrently, we would expect to see continued United States interest in protecting sovereign nations and encouraging peace in that part of the world. The difficulties of our leadership responsibilities are compounded by the 6,000-mile distance separating this strategically important and volatile area from the United States.

The Strategic Atlas describes the Middle East as the area of northern Africa and the Persian Gulf region that includes the following countries: Egypt, Israel, Jordan, Lebanon, Syria, Iraq, Turkey, Iran, Kuwait, Saudi Arabia, Oman, Yemen, Bahrain, and Qatar.⁴ Politically, this set of nations includes parliamentary democracies, monarchs run by sheikdoms, and oppressive dictatorships. Of these nations, Israel, Egypt, Saudi Arabia, Kuwait, and Turkey have a history of friendly relations with the United States. In contrast, Iran, Iraq, and Syria have been unfriendly to us to one degree or another. The wide range of religions in the region include Christian, Jewish, and Muslim - both Shiite and Sunni, all of which are in conflict with one another to varying degrees.

The region can only be described as complex and confusing to the average American. It is a geographic area that is both rich in the vital resource of oil and rich in ethnic, cultural and religious turmoil.

The United States' view of this region is described in the President's March 1990 National Security Strategy statement. As outlined, we desire to promote peace and stability in the region and encourage the uninterrupted access to the oil suppliers of the region.⁵ To accomplish the desired end state, the United States may have to provide a sustained military presence.

A U.S. military presence in the Middle East might take the form of the Navy alone. On the other hand, it is very likely that it would also include ground and air forces. If the United States had to move units to the region, existing political agreements would have to be considered. First, we would have to review any pertinent United Nations' resolutions. Second, we would have to be aware of bilateral agreements that include military assistance to countries such as Israel, Egypt, Saudi Arabia, and Turkey.⁶ Third, we would need to be aware of any Presidential promise of assistance to any nation in the region. While there are increased possibilities for U.S. forces in the Middle East, Soviet pressure that holds the U.S. in Europe is decreasing. Based on the current reduced threat of Soviet attack against NATO, transfer of a U.S. division to the Middle East would have no significant operational impact on NATO.⁷ The

Soviets are withdrawing, Germany is reunified, and the historical requirement for a general defense along the former border no longer exists.⁸ The only current requirement seems to be a U.S. military organization as a stabilizing force. This means that the bulk of U.S. units in Germany are no longer fixed in place by a Soviet threat, but are available for employment elsewhere. Based on projected force reductions, transfer of a U.S. division to the Middle East would leave two divisions in Germany which is adequate to meet emerging military requirements in central and eastern Europe.⁹

Thus far, we have a picture of the Middle East that stands as a tinder box of conflict with numerous potential requirements for the employment of U.S. ground forces. As recent events in Iraq illustrate, conflict in the region can erupt suddenly in a manner that threatens U.S. national interests. To protect our interests and achieve our national objectives, the United States needs the capability to rapidly deploy significant power into the region. At least two heavy divisions will remain deployed in Germany as part of our NATO commitment, down from the four (plus) of recent years. Because of the reduced pressure on NATO from the Warsaw Pact, the United States could deploy a U.S. division from Europe to the Middle East to reinforce contingency forces moved from the United States.¹⁰

This paper will develop operational considerations for the employment of a European based U.S. division in a contingency in

the Middle East. The European based division was selected because it is fully manned and modernized, and is located in the adjacent theater. Unlike a CONUS based division, the European based division has no access to a desert environment such as the National Training Center so the change in geography and climate would be dramatic. Criteria for development of the operational considerations focus on the dynamics of combat power: maneuver, firepower, protection, and leadership.¹¹ First, the paper will discuss theory that relates to the problems of deployment and employment. This will include the works of Clausewitz, Jomini, and Simpkin. Second, the paper will draw lessons from the recent military history of the region. This history will include discussion points from the Arab-Israeli Wars (1967 and 1973), the Iran-Iraq War (1980-1988), and the Israeli incursion into Lebanon (1982). Third, the paper will identify and discuss operational considerations for employment as described above. The last section of the paper will discuss conclusions.

II. THEORY

Military theory and history serve as the chief vehicles with which to highlight and sketch the essence of operational art.¹²

Theory and history provide a true basis for military analysis of the operational level of war. This section of theory will serve three purposes. First, it will define terms that will be used later in the history and analysis sections. Second, the theory describes the absolute fundamentals for operational maneuver. Third, the theory provides a universal

baseline that can be used for further historical study and analysis. The theory is universal and would apply to any heavy division, whether based in CONUS or in Europe. This section will review the thoughts of the following military theorists: Sun Tzu, Clausewitz, Jomini, Tukhachevsky, B.H. Liddell Hart and Richard E. Simpkin. To facilitate the development of operational considerations, this discussion will follow the dynamics of combat power: maneuver, firepower, protection, and leadership. The definitions of these terms are important because they serve as the common basis for understanding the discussion of operational considerations.

As defined in the 1986 FM 100-5, Operations: "Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage."¹³; "Firepower provides the destructive force essential to defeating the enemy's ability and will to fight."¹⁴; "Protection is the conservation of the fighting potential of a force so that it can be applied at the decisive time and place."¹⁵; "Leadership provides purpose, direction, and motivation in combat."¹⁶ With these definitions in mind, let us begin our analysis of theory with Carl von Clausewitz.

He addressed the concept of flank attack when assaulting an enemy position.¹⁷ The idea is to avoid the enemy's strength; rather, the attacker seeks a flank approach so he can gain a position of advantage on a defender. This was later expanded by B.H. Liddell Hart as the theory of the indirect approach.¹⁸

Baron Antoine-Henri Jomini expanded Clausewitz's maneuver theory with his discussion of decisive points. He felt that decisive points were points on the ground that provide an advantage to the controlling force.¹⁹ Or put another way, "a decisive point is any objective that will provide a force with a marked advantage over an opponent."²⁰

Jomini took maneuver theory a step further than decisive points when he described combinations. Simply stated, a combination exists when two or more operations support one another.²¹ An example of a combination is a fixing force supporting the attack on an enemy flank by a second unit. This support, as part of a combination, can be either successive or simultaneous in time.

From the 19th century writings of Clausewitz and Jomini we leap forward into the 20th Century with the writing of Mikhail N. Tukhachevskiy, one of the key leaders in the early years of the Soviet Army. Tukhachevskiy, the author of much modern armored theory, articulated two points of maneuver theory that are of special interest to the thrust of this paper. First is the theory of successive operations.²² He saw combat as a series of linked operations, one right after another. Successive operations keep pressure on the enemy, so he is unable to resist a breakthrough effort at some point of concentration.²³ At this

point of concentration, the force would be able to overwhelm the enemy and drive deep to seize decisive points.

Perhaps Tukhachevskiy's greatest contribution is in the theory of combined arms operations. He envisioned infantry, artillery, and tanks working together in harmony.²⁴ He did not see extensive independent roles for these system. Indeed he realized early that the cumulative effect was greater than the sum of the parts.

Richard E. Simpkin, a retired British brigadier, is a modern theorist who studied the combined arms concept espoused by Tukhachevskiy. Simpkin's writings have done much to explain the value of an operational reserve as a means of achieving depth when in a defensive position. He referred to the process as an "anvil and triple hammer."²⁵ The defense serves as the anvil. The lowest tactical commander plans and organizes a tactical counterattack, and the next higher tactical commander follows suit at his level. Finally, the operational level commander would conduct a deep strike against the enemy army. Thus the opposing army is hit in a multidimensional manner designed to apply maximum simultaneous combat power along an extended, exposed enemy flank.

Firepower, the second dynamic of combat power, leads to the consideration of two pieces of theory. The first is Clausewitz's notion of destruction of the enemy force being key to victory.²⁶ Firepower is the prime mode for accomplishing the destruction function. The objective, in Clausewitz's view, is

accomplished when the enemy no longer has the will to carry out the fight.²⁷

Clausewitz also discussed the theory of concentration in his writings.²⁸ Though primarily a method of focusing maneuver forces to overwhelm the enemy at one point, it also has application to firepower. Here, rather than bringing together units that are distributed across the zone of operation, one would mass fires from dispersed and distributed direct and indirect systems concentrating simultaneously on one target.²⁹ These fires destroy the enemy and break his will to resist.

Protection, the third dynamic of combat power, is an inherent obligation of a commander. He must take active steps to prevent attrition or destruction of the force, and combat power must be preserved so that it can be applied to advantage at the proper time and place. Sun Tzu felt that protection of the force was vital. He saw a need to conserve combat power until he could ensure he had an advantage.³⁰

Sun Tzu also wrote of concealing friendly dispositions from the enemy, as a form of force protection.³¹ By hiding large force dispositions from the enemy, a force would be able to concentrate without detection. The friendly force would concentrate while the enemy, unknowing, remained dispersed. This would enhance protection by giving the friendly force numerical advantage at the point of attack.

Jomini addressed the issue of protection with his discussion of lines of operation. These lines, along which an army moves

from decisive point to decisive point, were critical to protection of the force. Jomini said that they should be cleared "otherwise the enemy might threaten the line of retreat."³² This could cause problems additionally if the flank of a reinforcing unit were attacked during movement along the line of operations.

The fourth dynamic of combat power is leadership, perhaps the most important dynamic of all, because it cements the other three dynamics: maneuver, firepower, and protection. FM 100-5, Operations, says "the most essential element of combat power is competent and confident leadership."³³ Sun Tzu placed great emphasis on leadership in his discussion of what a general should be. He wrote of the general's "qualities of wisdom, sincerity, humanity, courage, and strictness."³⁴ Additionally, Sun Tzu stated that "the excellent general weighs the situation before he moves. He does not blunder aimlessly into baited traps. He is prudent, but not hesitant."³⁵ The essence of a general, according to Sun Tzu, was an example of self sacrifice who shared the "toils and fatigues of the army."³⁶

Clausewitz discussed leadership under the heading of military genius. He set the stage for his discussion by describing the conditions of battle--danger, physical exertion, and suffering. Added to this, he described war as "the realm of chance."³⁷ Because of these demanding conditions, Clausewitz, described four traits he felt the military leader had to possess. First, he saw a need for "courage in the face of personal

danger and courage to accept responsibility."³⁸ Second, he saw a requirement for the power of intellect. Third, Clausewitz saw a need for determination in a commander. Finally, he said the commander had to have "presence of mind."³⁹ Here he talked in terms of decisions that the commander had to make rapidly, while under great pressure.

The organization of this section of military theory under a typology of the dynamics of combat power serves as a model for the analysis section. Next, the lessons of history will serve as the second stage of the building block process that leads to the development of operational considerations.

III. HISTORY

In this section I will discuss key portions of the military history of the Middle East and the adjacent area of North Africa commencing with the World War II desert campaign. I will consider the 1967 and 1973 Arab-Israeli Wars, the 1980-1988 War between Iran and Iraq, and the 1982 Israeli invasion of Lebanon. The focus will be on illuminating significant lessons that would be useful in developing operational considerations for a European based division employed in the Middle East.

The writings of General Erwin Rommel reflect many operational lessons learned in North Africa in 1941-43. These lessons are useful because they were demonstrated in a desert environment with challenges similar to those of the Middle East by an army that trained and deployed out of Europe. During the campaign in North Africa, Rommel, though undermanned and short

of supply, came close to defeating superior British forces through operations that involved long distance and major formations. "Of all theaters of operations, it was probably in North Africa that the war took on its most admired form. The protagonists on both sides were fully motorized formations, for whose employment the flat and obstruction-free desert offered hitherto undreamed of possibilities."⁴⁰

One of the first lessons concerned concentration. Rommel felt that the British under General Wavell never grasped the concept in 1941 because the British fighting forces were always dispersed. They never "succeeded in concentrating forces at the decisive point."⁴¹ A grasp of the concept of concentration coupled with speed of operational movement, rapid advance, and exploitation of success often led to victory.

Tied to his desire for speed of operational movement, Rommel believed in focusing his effort on deep operational objectives. He worked hard to avoid tactical battles with the enemy's main force and the enemy's tactical reserve. He sought to bypass these forces, to seek deeper operational level objectives that would more quickly unhinge the capability of his opposing commander. He sought deep decisive points that would neutralize enemy command and control, logistical facilities, and operational reserves.⁴²

Rommel demonstrated his desire for seizure of deep, operational decisive points at Tobruk in 1941, and he demonstrated that he was an advocate of operational mobility by always

seeking to maneuver deep. He felt that a lack of mobility, because of equipment or transportation limitations, was disastrous in desert warfare. Hence he saw little value of nonmotorized infantry units in desert operations unless they occupied prepared positions. He felt that "if these positions are pierced or outflanked, a withdrawal will leave them helpless victims of the motorized enemy."⁴³

General Rommel was clearly an advocate of firepower, and experience in North Africa reinforced three lessons. First, the British dominated the air. As he stated, they had "air supremacy."⁴⁴ This allowed the Royal Air Force to break up approach march formations and assembly areas across the entire theater.⁴⁵ Moreover, they were able to use airpower to heavily damage the German supply network and system throughout its depth. Second, unburdened by logistical constraint, the British were able to concentrate overwhelming artillery fire. Third, in the desert, tank gun and antitank gun ranges were critical, so at El Alamein he found the greater range of the German direct fire tank killing systems enhanced maneuver across the front.

Protection of forces was an exceedingly difficult challenge in North Africa. Flat and open terrain, by itself, did not enhance survival. Rather than enhancing it, the desert served just the opposite, resulting in shortages of water, an absence of concealment and camouflage, and exposed lines of operations and supply.

General Rommel was unable to adequately protect his logistical system. Lines of supply were exposed to view from the air, and the Royal Air Force had command of the air, including the Mediterranean. Because of the threat of British daylight air attack, the Germans conducted much of their logistical activity under the cover of darkness. In spite of night logistical movements, the reduced flow of fuel supplies, resulting from air attack against shipping, ports and overland system, often caused the entire Afrika Corps to delay offensive operations.⁴⁶

Leadership, was the most critical dimension of General Rommel's success as the Afrika Corps commander. Three characteristics made him stand out as a dynamic and effective commander. First, he demonstrated physical and moral courage and was an inspiration to his soldiers through his own personal example. As Rommel stated, "There are always moments when the commander's place is not back with his staff but up with the troops." Later he added, "In moments of panic, fatigue or disorganizing action, or when something out of the ordinary has to be demanded from them, the personal example of the commander works wonders."⁴⁷ Rommel was able to spend a great deal of time forward, forming his own picture of the battle because he had an effective chief of staff who was trusted to control operations in his absence.

Second, General Rommel's penchant for doing a commander's estimate in parallel with the staff contributed to his effectiveness.⁴⁸ This allowed him to give clear guidance and set high but realistic standards for performance. It also kept him involved and maintained a high tempo in the planning process.

Third, General Rommel demonstrated great leadership as a trainer. He constantly analyzed strengths and weaknesses of units. At every opportunity for staffs and units, he insisted on a program of training to correct battlefield deficiencies. In particular, prior to the assault of Tobruk in April 1941, Rommel insisted on training in assault of defensive positions.⁴⁹ This philosophy of using training opportunities during operational pauses enhanced the capability of the entire Afrika Corps.

Following the World War II campaigns in North Africa, desert warfare experiences with modern armored formations were gained in the last three Arab-Israeli wars: the Six Day War (June 1967), the War of Atonement (October 1973), and the invasion of Lebanon (June 1982). Although more modern in time, these conflicts produced knowledge that is for the most part not new. However, the new lessons, beginning in 1967, are significant enough to merit discussion.

In June 1967, faced with fear of a massive Arab attack, following Egypt's closure of the Suez Canal, Israel staged a preemptive attack on the air forces in Egypt and Syria. The air offensive was a total surprise and the opposing Arab air forces

(the Arab center of gravity) were effectively destroyed on the ground. It was a near perfect example of what Simpkin called moral or total surprise.⁵⁰ This effective air operation gave Israel command of the air and was to prove decisive in the next six days of battle. It was followed immediately by massive ground attacks in the Sinai Desert and the Golan Heights.

Command of the air allowed Israel to rapidly mass armor without fear of air attack.⁵¹ Israeli ability to rapidly concentrate combat power at the decisive point illustrated the dynamics of maneuver. Firepower was primarily affected through the mode of massive air support of operational maneuver, designed to reach objectives deep in the enemy rear.⁵²

Though Israel's massive air support of operational maneuver led to victory in June 1967, the Israeli armed forces emerged from the conflict with some bad lessons concerning the supremacy of air power in a campaign, and the effectiveness of independent tank operations. In 1967 the Israeli preemptive air strike ensured quick victory. The Israelis won because of the dominance of the Israeli air force and the poor state of training and leadership of the Arab armies. Both of these 1967 Israeli advantages changed in time and the faulty lessons from 1967 concerning air power and combined arms almost led to operational disaster in October 1973.⁵³

The strategic situation for Israel was different in 1973 because political pressures prevented an Israeli preemptive attack.⁵⁴ Surprise was a factor, though not in favor of the

Israelis. The Egyptians and Syrians achieved material surprise in that Israel knew an attack was coming but could do nothing about it. Massive assaults were conducted by the Egyptians across the Suez Canal and by the Syrians into the Golan Heights.⁵⁵

During their counterattacks of Arab positions, Israeli forces learned hard lessons about maneuver. First, the Israeli Air Force was unable to achieve early command of the air because of extensive Arab air defenses consisting primarily of missiles distributed and employed in depth throughout the operational area. Second, the Israeli armor attacked in mass.⁵⁶ The tank forces were not task organized with infantry, and paid little attention to employment of supporting artillery. As a result, Israeli armored formations on both fronts suffered extremely high casualties from rocket propelled grenades and Sagger antitank wire guided missiles fired from dismounted infantry positions.⁵⁷ After early setbacks, the Israeli army learned to use massed firepower of corps level artillery to suppress antiarmor defenses and to attack in a combined arms mode in a distributed manner across the front as Tukachevskiy described in the 1920's.⁵⁸

The next opportunity for Israel to demonstrate combined arms operations occurred in 1982. Israel invaded Lebanon in June in order to eliminate a terrorist threat to her northern regions that was inspired by the Palestine Liberation Organization (PLO). The operation was successful in military terms as the

PLO was forced out of Lebanon.⁵⁹ It was, however, unsuccessful in a strategic sense because Israeli use of abusive force angered world political leaders.

In Lebanon, Israel remembered the lessons of maneuver gained during the 1973 war. They did an excellent job of working combined arms concepts with armor, infantry, and attack helicopters. The Israelis did, however, experience two significant maneuver problems. One was pockets of anti-armor ambushes located in restrictive terrain such as orange groves adjacent to the route serving as the line of operations.⁶⁰ These ambushes had a moral impact because the high numbers of casualties inflicted by the ambushing units of the PLO shocked the political leadership.⁶¹ Second, the Israeli Army ran into trouble clearing major built up areas--especially in Beirut. This had an operational impact because of the time delay it imposed and because of the dismounted manpower requirement generated by the political decision to enter the city.⁶²

Firepower was an interesting dynamic in the Lebanon invasion for three reasons. First, tactical air support was very effective. In the Beka Valley, the Israelis executed a simple plan to suppress enemy air defenses so the air force could operate effectively. This plan included use of drones to act as decoys, field artillery, electronic warfare aircraft, and attack aircraft.⁶³ The effectiveness of this plan allowed the Israeli Air Force to be much more supportive of ground operations.

Beginning in the same era as the Israeli combat actions in Lebanon, the Iran-Iraq war lasted from 1980 to 1988. It was a bloody war of position and attrition in which over one million people died.⁶⁴ The battlefield became distributed and linear as each side attempted, unsuccessfully, to turn the other's flank.

Two lessons of maneuver emerging from the Iran-Iraq war were operationally significant. First, the Iraqis used their Republican Guard, an army sized unit of 100,000 men, as an operational reserve.⁶⁵ It was not used in daily combat. But as the best trained and equipped organization in the Iraqi Army, it was used to reinforce decisive points and to lead key attacks. Second, the war was distributed and was fought throughout the depth of the theater of operations by both sides using airpower and short range conventional missiles.⁶⁶

In addition to the employment of airpower and missiles, Iraq demonstrated firepower through the use of massive volumes of artillery. Field artillery proved to be an effective weapon against human wave infantry assaults conducted by the Iranians. Iraq established engagement areas to focus combat power against Iranian assault units.⁶⁷ This worked well resulting in a positive operational impact on the forces through the retention of terrain vital to Iraq. Additionally, Iranian national manpower was ground down to unacceptable levels by the massed artillery fire across the entire theater of operation.⁶⁸

IV. ANALYSIS

The purpose of this section is to develop, considerations for the employment of a U.S. division based in Germany for contingencies in the Middle East. This analysis will be presented using the framework of the dynamics of combat power: maneuver, firepower, protection, and leadership. The analysis will focus at the operational level of war that links and overlaps tactical and strategic levels. This level of war is also described as the exercise of operational art. "Operational art is the employment of military force to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations."⁶⁹ Since this paper focuses on operational considerations, it will discuss only actions or techniques by the force as a whole that might affect the campaign plan. In some cases, an event or action in one system or unit affects the campaign. In others, the cumulative action of all units performing the same action might be required in order to affect the campaign. Many of the examples cited in this paper are tactical if considered individually. However, when distributed across the width and depth of the theater of operation their total cumulative effect is operational. Second, a tactical event can have an operational impact if it unhinges a key enemy decisive point or causes a negative psychological impact on the enemy command structure.

The heavy division is one of the types of units that could contribute to the cumulative action required for a successful campaign. The heavy division is organized as either an armor division or as a mechanized infantry division. In the case of an armor division, it consists of six tank and four mechanized infantry battalions. In a mechanized infantry division, the structure consists of five tank battalions and five mechanized infantry battalions, for a balanced force picture. Each heavy division has an artillery brigade of 155-mm self-propelled artillery and a multiple launch rocket system (MLRS) battery. In addition, each division has an aviation brigade, a cavalry squadron for tactical reconnaissance, an engineer battalion, a signal battalion, an air defense battalion, and a military intelligence battalion that includes a long range surveillance company. Finally, the division has a support unit called a division support command.⁷⁰ The division includes over 10,000 soldiers and is commanded by a major general with two brigadier generals acting as assistant division commanders for maneuver and support, respectively.

Maneuver

Maneuver is the first dynamic of combat power under consideration. In this case, strategic movement as a prelude begins with alert and deployment from Germany to the Middle East. More than likely, movement would be conducted in four phases. Phase I would consist of alert and preparation.

Concurrently with movement preparation actions, staffs throughout the division, especially the division coordinating and special staffs, should begin planning and coordinating for future operations. The division commander should make assumptions about potential missions, and initiate both the staff and the commander's estimate based upon the predicted threat and assumed missions. The most likely maneuvers following completion of strategic movement to the theater of war would be defense and hasty attack, to take advantage of a stalled enemy force and to regain the initiative.⁷¹

Phase II of deployment to the theater of war follows the preparation phase and runs, to some degree, concurrently. This phase of deployment consists of deployment of lead elements, by air, to the Middle East. The lead elements going by air would have the primary responsibility of quartering the division and establishing initial logistics. In addition, the advanced element should establish liaison, continue planning, and coordinate required host nation and corps support. Each brigade and the division headquarters should be represented. The air defense, air cavalry, and main support battalion should send as many people as is allowed by available seats on the aircraft.

Phase III of deployment consists of movement by rail and convoy to ports of embarkation for sea movement by ship to the Middle East. The move to sea ports would probably take one week based on available trains and rail lines.⁷² This move by sea, Phase IV of the strategic movement, includes the majority of the

division's combat vehicles, wheeled fleet, heavy equipment, and bulk supplies. Normal ports in usage by U.S. forces in Europe include Bremerhaven and Antwerp. These should be adequate to outload and ship an armored division. In addition, with NATO support, the ports of Marseilles and Naples might be available. These ports reduce the sea movement distance by a factor of one-half.⁷³

Likely ports of debarkation include Muscat in Oman, Bahrain in Saudi Arabia, Alexandria in Egypt, or Tel Aviv in Israel.⁷⁴ The exact location would depend on the specific contingency requirements. The status of the Suez Canal would also be a factor affecting ports of debarkation. The level and proximity of hostilities would also enter the equation. The division needs free and uninterrupted access to a port of debarkation.

Once the division enters the port of debarkation its members would encounter the geography of the Middle East, best described as harsh and varied. Elevations range from peaks of over 5,000 feet with snow in the winter, to low areas such as the great Quatra Depression that are below sea level. Vegetation ranges from the pine forests of Iran to areas that are totally free of plant life in some portions of the great Saudi desert.⁷⁵ The region even includes water obstacles to armored formations such as the Suez Canal, the Jordan River, and the Tigris River.⁷⁶ Soil composition varies widely from huge rocky areas in the Golan to a fine dust-like sand in the desert. Coastal areas of the Persian Gulf are often marshy to the point of allowing no

vehicular movement. Further complicating the geography is a road network that only connects major cities. Additionally, temperature ranges from 120 in the summer in Saudi Arabia to below freezing in the mountains during winter.⁷⁷

The geography of the Middle East, because of its large size, harsh physical characteristics, and vast cities presents two operational challenges. First, the European based division will be challenged by equipment requirements. As the German Army saw at the gates of Moscow in the winter of 1941, failure to equip troops properly can contribute to disaster.⁷⁸ Second, the division commander is faced with a challenge of force organization. Open deserts require mobile, long-range fires, and armor. A city such as Beirut, Lebanon requires complex clearing and greater manpower.

Israeli casualty rates increased markedly in Beirut in the 1982 invasion.⁷⁹ A U.S. armored division may not have enough infantry to support such operations. To fight in a city, the division might require attachment or cross attachment with a light infantry division, thus a heavy/light mix.⁸⁰ This poses operational challenges because of a wide difference in force movement rates, survivability, and logistical support requirements.

In parallel with the wide variance in terrain, the European based division would face three stages of threat following deployment to the Middle East.⁸¹ First, the division could see the threat of tactical air or missile attack at the port of

debarkation.⁸² This would argue for prepositioning of air defense units prior to arrival of the mass of the division's combat vehicles and attack helicopters. Second, the division could engage conventional antiarmor ambushes or enemy armored formations enroute from the port of debarkation to the divisional assembly area or defensive position. Third, once in position in country, the division could experience a terrorist attack, similar to the 1983 car bomb attack on the Marine Barracks in Beirut, designed to embarrass the United States.⁸³

Reconnaissance is one of the first systems the division commander needs to establish upon arrival in the theater of operation.⁸⁴ Because of terrain and climatology differences, the reconnaissance elements will have to conduct their missions with greater care. First, unlike Europe, where concealment from aerial observation is readily available, there is virtually no natural overhead concealment or cover. The answer lies in camouflage netting and dispersion throughout the width and depth of the division. Second, movement of an entire division raises dust clouds which can compromise a force several miles away. The answer to this is to move and occupy positions at night. Easier detection of moving units may mean that reconnaissance elements need more time, and intelligence reports from reconnaissance units may take longer to funnel to the division commander because of greater dispersion of reconnaissance units.

This has an operational impact on the division commander's ability and daytime flexibility, for shifting zones or the operational line of a reconnaissance unit during daylight hours may compromise the force.

Once the division has deployed to the Middle East and established the reconnaissance function and planned for a shortage of maps, it can look forward to missions in support of the campaign plan. As noted earlier, defense and hasty attack seem to be the most likely types of missions. It is very likely that the European based division would reinforce a corps from the continental United States or perhaps a multinational corps deployed from other regions.⁸⁵ This would have an impact because it requires liaison officer (LNO) teams for coordination of maneuver, fires, logistics, and command and control. The LNO function would be expanded even more if the division reinforced armies from other nations, operating as part of a coalition.

Once the division is in position with the reconnaissance function working and liaison established, the commander needs to consider the concept of depth. The division needs it in order to "obtain the necessary resources to win."⁸⁶ To gain this dimension, the division commander can apply the Simpkin model.⁸⁷ First, the division establishes a defensive position that allows avenues to maneuver forward and room to maneuver rearward and laterally. In the Middle East this could be a large area with a frontage of up to 70 kilometers. Second, units establish terrain-referenced control measures such as phase lines and

zones so that maneuver can be controlled. Third, the commander orders subordinates to plan and coordinate counterattacks at battalion and brigade level. Fourth, the commander directs the planning of a deeper counterattack as part of the CINC's operational level counterattack plan. Finally, the staff integrates supporting units and systems into the overall scheme.

In addition to depth, the division needs to be able to achieve mass at a decisive point.⁸⁸ At division level this can be accomplished in support of the campaign plan's operational maneuver requirements. First, in order to achieve mass at one point, the division must economize force elsewhere in the area of operation. There are not enough resources to achieve mass everywhere. Second, the division must synchronize movement of forces over changing terrain at varying rates. Third, this must be hidden from the enemy, so the enemy does not realize that the division is moving to achieve mass.⁸⁹ This hiding of intent can be accomplished either by the concealment of night, terrain, or smoke. Concealment of such a large formation is a more difficult task in the Middle East than in Europe.

This massing, or "concentration of forces at the decisive time and place to achieve decisive results", causes the enemy to be surprised.⁹⁰ Surprise in turn lends to psychological shock and force paralysis. It unnerves the enemy command and affects his state of mind and his will. This then removes initiative from the enemy.

It is likely that while one portion of the force is moving to mass and gain the offensive, another portion of the force is defending in an economy of force role as part of an offense-defense-offense continuum.⁹¹ Defense in the Middle East has a new twist that differs from Europe due to long range fires and observation and lack of concealment.⁹² This can result in the division dispositions being detected, observed, and engaged at greater distance by direct and indirect fire systems. In the desert, reverse slope defense may be the answer to the long range engagement problem. It may conceal the entire force and help maintain operational initiative.

The combat aviation brigade of the division offers a third dimension to battle that adds flexibility to the force in achieving both depth and mass.⁹³ It achieves depth because it allows the division commander to project combat power forward of defensive positions, or it can project forward of the division moving to contact on a corps frontage. Likewise, it provides a capability of massing combat power in the division rear area. In maneuvering in this manner, aviation provides an opportunity to overcome terrain obstacles that might impede massed armored movement of a division size formation. Helicopters are not constrained by defiles, sand dunes, rock outcrops or steep terrain.⁹⁴

Night operations, like aviation, can give the division an advantage that facilitates maneuver. Night vision technology

gives a qualitative advantage to a fully modernized U.S. division and makes the enemy's detection problem more difficult.⁹⁵ This ability to use the night, along with combat aviation, provides the division commander the ability to maintain operational momentum while keeping continuous pressure on the enemy across the entire front.

Additionally, the aviation brigade fits into the model of Jomini with sequels and branches. During a ground attack pause allowing ground maneuver units to refit, refuel, and rearm, the aviation brigade can press the attack and maintain pressure on the enemy.⁹⁶ The division as a whole never pauses, but instead is relentless in its attack. Aviation may execute a branch to an operation to widen an offensive by attacking the enemy's operational reserve to force the enemy into an operational pause.

Just as the division may force an unwanted operational pause on the enemy, geographic features or massive enemy obstacle belts can limit mobility and force the division into an unnatural or unexpected operational pause. The division may run into an obstacle that forces a halt while leaders analyze the situation, and issue orders to assault. This can have a cumulative effect that stalls the division's attack. The division needs to position heavy equipment and organic and reinforcing combat engineer battalions forward so they can breach the obstacle in stride.⁹⁷ Accordingly there will be no operational pause, for continuous pressure will be kept on the enemy.

Maneuver, the first dynamic of combat power is absolutely essential. In the Middle East it requires a different mindset than in Europe due to the change to vast, open geography. Open areas make it more difficult to achieve a positional advantage that surprises the enemy. Once the advantage is achieved, the division can engage the enemy with fire and destroy his will to resist. Maneuver and firepower go hand-in-hand.

Firepower

"Firepower provides the destructive force essential to defeating the enemy's ability and will to fight."⁹⁸ It suppresses enemy fires, blocks and delays his movement, and affects the enemy's timing and causes operational logjams. The division commander can consider fires in three categories. First is USAF air support, normally in the form of A10 or F16 close air support aircraft. Second, Apache attack helicopters that are organic to the division's aviation brigade provide mobile and responsive fires. Though normally considered a maneuver element, the Apache battalions can provide long range fires from the Hellfire missile system.⁹⁹ This is best accomplished by keeping standoff ranges and firing into an engagement area in coordination with artillery, the third category of fire support.

Observation by senior leaders in the desert of the Middle East can be more difficult than in Europe for two reasons. First, the table top effect of much of the geography makes it difficult for the commander and forward observers to find proper observation positions where the entire battle can be seen.¹⁰⁰

This especially affects senior leaders who need to observe in order to see the battle well enough to make decisions to maintain operational initiative. A solution to this may be to trail observers, who relay information to the commander, to the rear of the main formation. In World War II, the allies found that this worked better than being positioned in the middle of the maneuvering formation.¹⁰¹

Protection

"Protection is the conservation of the fighting potential of a force so that it can be applied at the decisive time and place."¹⁰² To develop operational considerations for the protection of the force, this paper will examine three dimensions of the battlefield: psychological, air, and ground.

First, the division commander must ensure that his force is psychologically protected. This means proper mental and physical preparation for battle through realistic and physically demanding training, conducted prior to battle in order to prepare soldiers, leaders, and major formations for the trauma of distributed and successive battles.¹⁰³

Rest during battle is critically important, particularly for leaders. Vince Lombardi said that "fatigue makes cowards of us all."¹⁰⁴ Studies by the Israeli Army following the 1982 invasion of Lebanon indicate that fatigue was a great contributor to loss of personnel through battlefield stress.¹⁰⁵ This has an impact on the tempo of manpower replacement across the front.

The second dimension of protection is from air attack. In this case it means that the command follows both passive and active measures. Passive measures include dispersion, concealment, camouflage, and reduced movement.¹⁰⁶ These would be the same measures practiced by the division in Europe, but dispersion, camouflage and night operations take on added importance. Active measures include positioning air defense units in depth in the area of operations and integrating air defense into all units through employment of organic weapons. Priority for employment of the divisional air defense battalion must be established by the commander. In the defense it should include vital logistical nodes, command and control, and artillery. Artillery is especially vulnerable in the desert because of firing signature.¹⁰⁷

The third dimension of protection includes ground attack. In addition to passive measures designed to hide the force visually, thermally, and electronically, the division should consider security from ground attack as a state of mind. Each unit must never assume it is secured by another unit, and the security posture must assume that the enemy can attack from any direction at any time. Reconnaissance units at all echelons must give the division commander time to react, to include planning, communicating orders, and moving major formations. Finally, the ground and air cavalry units must aggressively seek out the enemy to gain and maintain contact.

Protection from ground attack, in the desert of the Middle East, should include actions to protect logistical resources. There are three aspects to protection of logistics. First, the logistical units must be organized and rehearsed to conduct a base cluster defense.¹⁰⁸ Second, the logistical units must be prepared to move on short notice if a threat can not be contained forward. Third, combat units must be prepared to move rearward to counterattack enemy armor for air assault forces attacking a logistical unit in base cluster defense.¹⁰⁹ When protection is done properly, logistical systems work unimpeded by enemy action and soldiers are healthy and maintain their fighting morale.

In summary, protection, an essential dynamic of combat power, is more difficult in the harsh, unfavorable environment of the Middle East than in Europe. The division commander must ensure that his force is protected psychologically as well as from air and ground attack. So doing preserves combat power so that it is available to concentrate in support of the theater commander's campaign plan.

Leadership

"The most essential element of combat power is competent and confident leadership. Leadership provides purpose, direction, and motivation in combat."¹¹⁰ This process of getting soldiers to do difficult things in the midst of danger and stress, can be described in four phases. The first aspect of leadership is planning.¹¹¹ In this function, the division commander must be

personally involved, and he must think and apply his intellectual skills and experience to the early stages. In this sense, like Rommel, he needs to do a commander's estimate of the situation.¹¹² This allows the division commander to issue clear guidance and early warning orders. This early involvement of the division commander saves time and facilitates early movement and logistical preparation for battle.

The second aspect of leadership at the operational level is logistical preparation of the battlefield.¹¹³ This is particularly important in the desert, where water is nonexistent, cover is sparse, and climate and terrain take a toll on machinery and equipment. During operations, maintenance for all weapons, vehicles, and equipment is critical.¹¹⁴ Repair parts demands must be anticipated, and the coordinating staff at division and the division support command must push supplies to units ahead of demand. To wait on logistical demand can equate to sacrifice of initiative and assumption of a non-planned operational pause.

Motivation, the third aspect of leadership, poses special challenges for commanders operating in a harsh desert environment. There is no ready formula for doing this. Clearly the senior leader must know all aspects of his job thoroughly - the men, the equipment, the vehicles, and the weapons systems. Second, he must be willing to set an example of courage and self-sacrifice. As General Rommel repeatedly demonstrated, a commander's calm presence at a critical point and time can be

decisive.¹¹⁵ Third, he must possess determination.¹¹⁶ In the Middle East, the physical situation is more difficult on leaders than in Europe due to the climatic extremes combined with rapid tempo operations, but the commander's will must dominate the enemy and the physical situation. Maneuver, firepower and protection all depend on the glue of leadership to function properly.

V. SUMMARY AND CONCLUSION

The purpose of this section is to outline the main conclusions that the reader should derive from this paper. In construct, it consists of three major sections: theory, history, and analysis. Theory and history provide the basis for the operational considerations that were developed in the analysis section. Criteria for this analysis process encompassed the four dynamics of combat power: maneuver, firepower, protection, and leadership. Several lessons were drawn under each of these dynamics. The lessons stand as particularly useful and significant for any U.S. European based division to retain and examine further.

As I examine each of these four dynamics of combat power, from a theoretical, historical and analytical perspective, four significant lessons emerge. First, the division will be most effective when it is able to achieve a positional advantage that allows it to rapidly concentrate against an enemy flank. Second, massed fires from dispersed locations at a decisive point will destroy enemy forces and lead to his loss of will. Third,

the force needs to seek ways to hide. The best way to accomplish this is to operate at night and in a reverse slope mode. Fourth, senior leaders must establish a presence in the force and must demonstrate, through personal example, physical courage and strength of will.

Looking at each of these four lessons in greater detail is useful as a final set of operational considerations. The first lesson, as stated above, is that the division will be most effective when it is able to achieve a positional advantage that allows it to rapidly concentrate against an enemy flank. This mode of attack seeks to avoid a massive and distributed battle that pits strength against strength in a destructive campaign of attrition. Instead, flank attack seeks to concentrate strength against weakness so that rapid destruction of the enemy will occur. Conducting a flank attack in the Middle East is more challenging than it is in Europe because the open areas make it more difficult to conceal the maneuvering force. Conceivably such an operation to attack the opposing army's flank would be conducted by the corps commander with the division serving a major role in the execution.

In conjunction with an operation to attack an enemy flank, the division must be able to rapidly concentrate massed fires at a decisive point. This concentration of fire is especially critical if the division is a participant in a corps deep attack operation where the division is exposed to counter-envelopment

by the enemy. This rapid concentration of fire is multidimensional. It includes direct and indirect fire as well as organic and supporting Army aviation and U.S. Air Force support.

The third lesson is that the force needs to seek ways to hide, a task more difficult in the Middle East than in the woods of Europe. The requirements of operations against an enemy flank and rapid concentration of fire at a decisive point can not be achieved without effectively hiding the force during preparation and movement stages. If the division does not hide and the enemy finds the division it will be simple for the enemy to predict intended operations. When this occurs at an early stage, the enemy has adequate time to mount operations to counter the division's efforts.

The fourth lesson is the most important because it involves danger, personal sacrifice, and great risk to the entire force. It is that leaders must establish a presence in the force, and must demonstrate, physical courage and strength of will. Presence of the division leadership is especially important as the geography of the Middle East imposes harsher daily conditions on the units than they experienced in Europe. Soldiers identify with leaders and suffer willingly when they know that those leaders experience the same plight. This sense combined with personal example carries into battle because senior leader presence and courage have a calming effect that inspires soldiers to greater effort and sacrifice. This

leadership is the glue that binds the effects of maneuver, firepower, and protection into an effective operation.

II. Implications

Based on standard organization and equipment, no significant differences exist between the employment in the Middle East of a heavy division based in the U.S. and one based in Europe. A U.S. European based division can successfully operate in the Middle East. Four significant implications apply to the employment of a European based division in a Middle East contingency. The first implication relates to the political element of national power. Special diplomatic preparation may be required to set the stage so that NATO member nations accept the employment of a U.S. European based division in the Middle East. The second implication concerns the transportation and the logistical infrastructure in Europe that must be maintained so that the division can move out of Europe. It is useless to plan for the employment of a force without the means to move it to the theater of war. Third, to operate effectively the division must receive a corps support package. This could be an organizational challenge if the corps in Europe evolve to a multinational unit. A corps support package may have to deploy from the United States because of the difficulties involved in extracting U.S. support units from a multinational logistical support structure. Fourth, because the desert of the Middle East provides an environmental challenge, the dramatic change in geography and climate could be offset somewhat by moving the

division to the Middle East prior to hostilities. Early movement would provide time to train in and adjust to the new environment.

In any case, to be successful in this new environment, the division must consider in detail the differences in geography and climate between Europe and the Middle East. In so adjusting to changes in geography, the division must adapt the dynamics of combat power (maneuver, firepower, protection and leadership) to its analysis and planning process. Employing the dynamics of combat power as a model for analysis will lead to successful planning for major operations in support of the theater campaign plan, and will provide additional maneuver capability for the CINC in the theater of war.

END NOTES

1. "National Security Strategy of the United States", the White House, Washington, D.C., March, 1990, p. 13.
2. Ibid., p.1.
3. "Annual Report to the President and the Congress," Office of the Secretary of Defense, Washington, D.C., U.S. Government Printing Office, January 1990, p.2.
4. Chailiand, Gerard and Rageau, Jean-Pierre, A Strategic Atlas, Harper and Row, New York, 1985, p. 118-119.
5. "National Security Strategy of the United States," Op.Cit. p. 13.
6. Ibid., p. 15.
7. "Gorbachev and Kohl Sign Treaty on Good Neighborliness", "The Week in Germany," Bonn, Germany, German Information Center, 16 November, 1990.
8. Javetski, Bill and Templeman, John, "Is the U.S. Being Written Out of Europe's Script," Business Week, 19 November 1990, p. 72.
9. Bernstein, John, "Gulf Crisis Accelerates Shift of U.S. Forces from Europe," "Insight", 3 December 1990, p. 24.
10. Ibid., p. 24.
11. Field Manual 100-5, Operations, Washington, D.C., Headquarters Department of the Army, 1986, p. 11.
12. Schneider, James J., "The Theory of Operational Art," Fort Leavenworth, Kansas, U.S. Army Command and General Staff College, 1 March 1988, p. 1.
13. Field Manual 100-5, Op. Cit., p. 12.
14. Ibid., p. 12.
15. Ibid., p. 13.
16. Ibid., p. 13.
17. On War, tr. Michael Howard and Peter Paret, Princeton, N.J., Princeton University Press, 1976, p. 535.
18. Schneider, Op. Cit., p. 40.

19. Roots of Strategy, "Jomini's Art of War", Harrisburg, Pennsylvania, Stackpole Books, 1987, p. 467.
20. Schneider, Op. Cit., p. 28.
21. Ibid., p. 42.
22. Tukhachevskiy, Mikhail N., 1a "New Problems in Warfare," Art War Colloquim Series, Carlisle Barracks, Pa., U.S. Army War College, November, 1983, p. 17.
23. Ibid., p. 13.
24. Ibid., p. 71.
25. Simpkin, Richard E., Race to the Swift, London, Brassey's Defense Publishers, p. 305.
26. Clausewitz, Op. Cit., p. 529.
27. Ibid., p. 90.
28. Ibid., p. 566.
29. Field Manual 100-5, Op. Cit., p. 12.
30. Sun Tzu, The Art of War, tr., Samuel B. Griffith, New York, Oxford University Press, 1971, p. 80.
31. Ibid., p. 98.
32. Roots of Strategy, Op. Cit., p. 477.
33. Field Manual 100-5, Op. Cit., p. 132.
34. Sun Tzu, Op. Cit., p. 65.
35. Ibid., p. 43.
36. Ibid., p. 128.
37. Clausewitz, Op. Cit., p. 101.
38. Ibid., p. 101.
39. Ibid., p. 103.
40. Liddell-Hart, B. H., The Rommel Papers, New York, Da Capo Press, Reprint, Original 1953, p. 197.
41. Ibid., p. 184.

42. Ibid., p. 408.
43. Ibid., p. 198.
44. Ibid., p. 328.
45. Ibid., p. 285.
46. Ibid., p. 285.
47. Ibid., p. 241.
48. Ibid., p. 96.
49. Ibid., p. 130.
50. Simpkin, Op. Cit., p. 182.
51. Herzog, Chaim, The War of Atonement, October 1973, Boston, Little, Brown and Co., 1975, p. 251.
52. Ibid., p. 17.
53. Ibid., p. 2.
54. Ibid., p. 53.
55. Ibid., p. 256.
56. Ibid., p. 191.
57. Ibid., p. 191.
58. Simpkin, Op. Cit., p. 37.
59. Gabriel, Richard A., Operation Peace for Galilee, New York, Hill and Wang, 1984, p. 167.
60. Ibid., p. 193.
61. Ibid., p. 194.
62. Ibid., p. 182.
63. Ibid., p. 98.
64. Cordesman, Anthony H., The Iran-Iraq War and Western Security 1984-87, London, Janes, 1987, p. 9.
65. Pelletiere, Stephen C., Johnson, Douglas V. II, Rosenberger, Lief R., Iraqi Power and U.S. Security in the Middle East, Carlisle, PA., U.S. Army War College, 1990, p. 37.

66. Cordesman, Op. Cit., p. 136.
67. Pelletier, Op. Cit., p. 35.
68. Field Manual 100-5, op.cit., p. 10.
69. Ibid., p. 128.
70. Student Text 101-1, Organizational and Tactical Reference Data for the Army in the Field, Fort Leavenworth, KS, U.S. Army Command and General Staff College, June 1988, p. 4-8 and 4-11.
71. III Corps Maneuver Booklet, Fort Hood, TX, Headquarters III Corps, May 1987, p. 11.
72. "VII Corps Reforger Deployment Order," Stuttgart, Germany, Headquarters VII Corps, September 1988.
73. Chailiand, Op. Cit., p. 75.
74. Ibid., p. 124.
75. Britannica Atlas, New York, Encyclopedia Britannica, 1970, p. 118-119.
76. Ibid., p. 315.
77. Ibid., p. 315.
78. Liddell-Hart, B.H., The German Generals Talk, New York, Quill, 1979, p. 185.
79. Gabriel; Op. Cit. p. 182.
80. Galvin, John R., "Heavy-Light Forces and the NATO Mission," "Infantry," Fort Benning, GA., U.S. Army Infantry School, July-August 1984, p. 13.
81. Middleton, Drew, "U.S. Needs Well-Planned Anti-Terrorism Policy," "Army Times," Washington, D.C., 7 January 1985, p. 19.
82. Pelletiere, Op. Cit., p. 55.
83. "Winning in the Desert," Newsletter 90-7, Fort Leavenworth, Ks, Center for Army Lessons Learned, August 1990, p. 6.

84. Field Manual 100-5, Op. Cit., p. 16.
85. Saint, Crosbie E., "A CINC's View of Operational Art," "Military Review", Fort Leavenworth, Ks, U.S. Army Command and General Staff College, September 1990 p. 66.
86. Field Manual 100-5, op.cit. 16.
87. Simpkin, Op.Cit., p. 304-306.
88. Field Manual 100-5, op.cit., p 174.
89. Winning in the Desert II" Newsletter 90-8, Fort Leavenworth, Ks, Center of Army Lessons Learned, September 1990, p. 5.
90. Field Manual 100-5, Op. Cit., p. 174.
91. Simpkin, Op. Cit., p. 99.
92. "Winning in the Desert II," Op. Cit., p. 5.
93. Simpkin, Op. Cit., p. 118.
94. Ibid., p. 63.
95. "Winning in the Desert II," Op. Cit., p. 5.
96. Simpkin, Op. Cit., p. 107.
97. Field Manual 100-5, Op. Cit., p. 114.
98. Ibid., p. 12.
99. Saint, Op. Cit., p. 76.
100. "Winning in the Desert II," Op. Cit., p. 9.
101. Ibid., p. 5.
102. Field Manual 100-5, Op. Cit., p. 13.
103. Saint, Op. Cit., p. 72.
104. Latham, Willard, "Leadership at Fort Benning," Fort Benning, Georgia, U.S. Army Infantry School, 1986.
105. Gabriel, Op. Cit., p. 180.
106. Field Manual 100-5, Op. Cit., p. 52.
107. "Winning in the Desert II," Op. Cit., p. 9.

108. Field Manual 100-16, Support Operations Echelons Above Corps, Washington, D.C., Headquarters Department of the Army, April 1985, p. 5-11.

109. Field Manual 100-5, Op. Cit., p. 150.

110. Ibid., p. 13.

111. Ibid., p. 14.

112. Hart, The Rommel Papers, Op. Cit., p. 96.

113. Field Manual 100-16, Op. Cit. p. Glossary 17.

114. Winning in the Desert, Op. Cit., p. 13.

115. Hart, The Rommel Papers, Op. Cit., p. 241.

116. Clausewitz, Op. Cit., p. 105.

Bibliography

Books

- Britannica Atlas, New York, Encyclopedia Britannica, 1970.
- Chaliand, Gerard and Regeau, Jean-Pierre, A Strategic Atlas, Harper and Row, New York, 1985.
- Clausewitz, Karl, On War, tr. Michael Howard and Peter Paret, Princeton, N.J. Princeton University Press, 1976.
- Cordesman, Anthony H., The Iran-Iraq War and Western Security 1984-87, London, Janes, 1987.
- Deighton, Len, Blitzkrieg, London, Jonathan Cape Ltd, 1979.
- Gabriel, Richard A., Operation Peace for Galilee, New York, Hill and Wang, 1984.
- Galvin, John R., Air Assault, New York, Hawthorne Books, 1969.
- Herzog, Chaim, The Arab-Israeli Wars, New York; Vintage Books, 1984.
- Herzog, Chaim, The War of Atonement, October 1973, Boston, Little, Brown and Company, 1975.
- Liddell-Hart, B.H., The German Generals Talk, New York, Quill, 1979.
- Liddell-Hart, B.H., The Rommel Papers, New York, Da Capo Press, Reprint, Original 1953.
- Manslein, Erich, Lost Victories, tr., Anthony G. Powell, Novato, California, Presidio Press, 1982.
- Mellenthin, F.W., Panzer Battles, New York, Ballentine Books, 1973.
- Pelletiere, Stephen C., Johnson, Douglas V. II, Rosenberger, L. if R., Iraqi Power and U.S. Security in the Middle East, Carlisle, PA., U.S. Army and College, 1990.
- Roots of Strategy, "Jomini's Art of War," Harrisburg, PA., Stackpole Books, 1987.
- Simpkin, Richard E., Race to the Swift, London, Brassey's Defense Publishers, 1985.
- Sun Tzu, The Art of War, tr., Samuel B. Griffith, New York, Oxford University Press, 1971.

Van Creveld, Martin, Command in War, Cambridge, Massachusetts, Harvard University Press, 1985.

Manuals

Air Force Manual 1-1, Basic Aerospace Doctrine for the United States Air Force, Washington, D.C., H.Q. U.S. Air Force, 1987.

Field Manual 6-20-30, Fire Support at Corps and Division, Washington, D.C., Headquarters Department of the Army, 1988.

Field Manual 23-1, Bradley Fighting Vehicle Gunnery, Washington, D.C., Headquarters Department of the Army, September 1987.

Field Manual 100-5, Operations, Washington, D.C., Headquarters Department of the Army, 1986.

Field Manual 100-2-1, The Soviet Army-Operations and Tactics, Washington, D.C., Headquarters Department of the Army, 1984.

Field Manual 100-15, Corps Operations, (Coordinating Draft), Fort Leavenworth, Kansas, U.S. Army Command General Staff College, 1988.

Field Manual 100-16, Support Operations: Echelons Above Corps, Washington, D.C., Headquarters Department of the Army, April 1985.

Student Text 101-1, Organizational and Tactical Reference Data for the Army in the Field, Fort Leavenworth, KS, U.S. Army Command and General Staff College, June 1988.

Field Manual 101-5-1, Operational Terms and Graphics, Washington, D.C., Headquarters Department of the Army, 1985.

Field Circular 101-5, Corps and Division Command and Control, Fort Leavenworth, Kansas, Command and General Staff College, 1986.

Documents

"Annual Report to the President and the Congress," Office of the Secretary of Defense, Washington, D.C., U.S. Government Printing Office, January 1990.

III Corps Manuever Booklet, Fort Hood, TX, Headquarters III Corps, May 1987, p. 11.

"VII Corps Reforger Deployment Order," Stuttgart, Germany, Headquarters VII Corps, September 1988.

"Family Support Group Model," Carlisle Barracks, Pa., U.S. Army War College, 1986.

Latham, Willard, "Leadership at Fort Benning," Fort Benning, Georgia, U.S. Army Infantry School, 1986

"National Security Strategy of the United States," the White House, Washington, D.C., March 1990, p. 13.

Schneider, James J., "The Theory of Operational Art," Fort Leavenworth, Kansas, U.S. Army Command and General Staff College, 1 March 1988.

Soviet Military Power 1989, Washington, D.C., U.S. Government Printing Office, 1989.

Tukhachevskiy, Mikhail N., "New Problems in Warfare," Art War Colloquium Series, Carlisle Barracks, PA., U.S. Army War College, November, 1983.

"The United States Army, A Strategic Force for the 1990s and Beyond," Washington, D.C., Headquarters Department of the Army, 1990.

"Winning in the Desert," Newsletter 90-7, Fort Leavenworth, Ks, Center for Army Lessons Learned, August 1990, p.6.

"Winning in the Desert II," Newsletter 90-8, Fort Leavenworth, Ks, Center for Army Lessons Learned, August 1990, p.5.

Articles

Berstein, John, "Gulf Crisis Accelerates Shift of U.S. Forces from Europe," "Insight", 3 December 1990.

Galvin, John R., "Heavy-Light Forces and the NATO Mission," "Infantry," Fort Benning, Ga., U.S. Army Infantry School, July-August 1984.

"Gorbachev and Kohl Sign Treaty on Good Neighborliness," "The Week in Germany," Bonn, Germany, German Information Center, 16 November, 1990.

Javetski, Bill and Templeman, John, "Is the U.S. Being Written Out of Europe's Script," "Business Week," 19 November 1990.

Kinzer, Stephen, "Troops in Germany Pack Up Kit Bags and Tanks," New York Times, 18 November 1990.

Krawciw, Nicholas S. H., Reforger After Action Review, Wuerzburg, Germany, 4 October 1988.

Matthews, William, "U.S. Unprepared for Future Combat, Analysts Say," Army Times, 4 Jun 1990.

Middleton, Drew, "U.S. Needs Well-Planned Anti-Terrorism Policy," Army Times, Washington, D.C., 7 January 1985.

Naylor, Sean, "Armed, Yes, But Are They Dangerous?", Army Times, 4 May 1990.

Naylor, Sean, "Iran-Iraq War Wasn't a Mechanized Showdown," Army Times, 14 May 1990.

Pfaltzgraff, Robert L. Jr., "The Army as a Strategic Force in 90's and Beyond," Army, February 1990.

Powell, Colin L., Gen., Interview, Army, Apr 1990.

Saint, Crosbie E., "A CINC's View of Operational Art," "Military Review," Fort Leavenworth, Ks, U.S. Army Command and General Staff College, September 1990.

Summers, Harry, "Deterrence Based on Warfighting Ability of U.S., Army Times, 21 May 1990.