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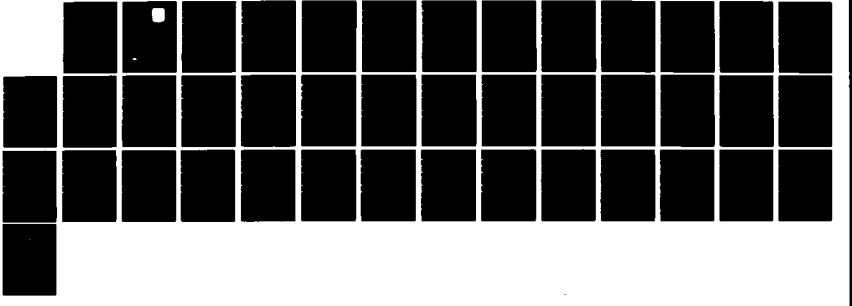

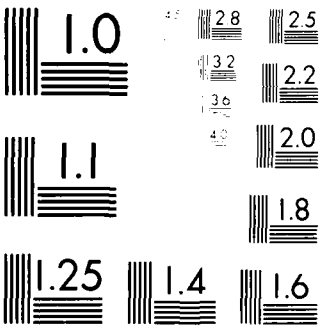

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THE ART OF COMMAND AND CONTROL IN MECHANIZED TASK FORCE OFFENSIVE OPERATIONS

BY

LIEUTENANT COLONEL WILLIAM B. GARBER, JR., AR

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USAWC MILITARY STUDIES PROGRAM PAPER

THE ART OF COMMAND AND CONTROL IN MECHANIZED TASK FORCE OFFENSIVE OPERATIONS

AN INDIVIDUAL STUDY PROJECT

by

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7 April 1986

ABSTRACT

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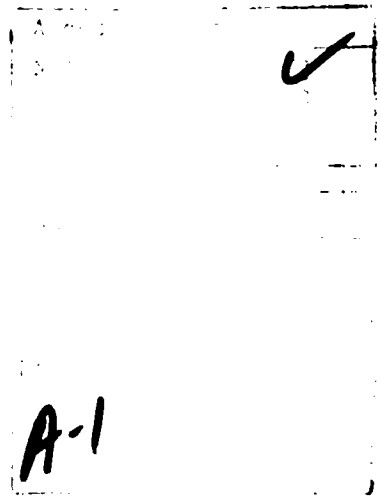

CHAPTER I

INTRODUCTION

The sun crept over the horizon at 0632 hours, as the S-2 had predicted. The armor heavy task force was in its forward assembly area where pre-combat checks were being completed. The previous night's patrols had reported the enemy dug in on the objective at Red Lake Pass, some 15 kilometers to the west. The scout platoon leader had stated further that he had observed three tanks and several BMPs on the objective, as well as dismounted troops in the tank ditch obstacle that cut the main road through the pass. Nothing unexpected. The task force commander and staff had updated the team commanders and had confirmed the plan. The task force would attack at 0700 hours with two teams abreast, Team A (tank heavy) on the right axis, Team C (tank pure) on the left axis, with Team B (infantry heavy) following Team C. At the predesignated attack positions close to the objective, under cover of smoke and artillery fire, Team A was to deploy and set up a base of direct fire while Teams B and C assaulted the objective from the north flank.

Everything seemed in order to the task force commander. The previous day's attack had been successful. The enemy's reconnaissance element had been surprised and destroyed a few hours ago while it was still dark. Morale was high, and the

soldiers felt they had the enemy on the run. This would be a fast, thorough, successful operation.

As the task force's lead elements moved out, the artillery FSO gave the "thumbs up" from his armored personnel carrier in which he was to follow the task force commander on the left axis behind the lead team, Team C. The S-3 was now moving in his tank behind Team A on the right axis.

A barely audible transmission creased the airways. After several tries, it became apparent that the S-3 was having communication equipment difficulty.

Enemy artillery and tac air began to zero in on the attacking force. Crews buttoned up, donned protective masks, and continued to move, returning fire at the "fast movers." The Vulcans were also busy. "Alpha 12 this is Tango 12, Green, over." Team C had reached phase line green. Where was Team A? "Papa 12, this is Alpha 12, SITREP, over." Silence. A call to the S-3 met a similar, though not unexpected, response. "Damned commo."

As the force neared its attack positions, smoke from artillery plumed across the battlefield between the objective and the friendly positions,. Still in MOPP IV, Teams B and C began to deploy on line. Still no word from Team A, and the terrain, dust, haze and friendly smoke, which was gradually drifting toward the task force, as well as the sunlight glaring off the scratched lenses of the task force commander's protective mask, prevented him from visually ascertaining Team A's exact whereabouts. Just then, as if fate were on the friendly side,

came a muffled transmission, "Alpha 12, this is Zulu 12 (Team A commander), we are at Blue (the attack position) and in contact wi. . ." Silence.

Soon after, Teams B and C began their assault on line. Tanks and APC's disappeared into the smoke which still lingered, despite having been shifted several minutes previously. Artillery was soon to be shifted to the southern half of the objective. Then the brigade command net crackled with the voice of the brigade commander: "Alpha 12, this is Romeo 12, your Zulu element is dying like flies out there. They're in the open and being picked off one by one." "Roger."

"Zulu 12 this is Alpha 12, attack, over." No reply, but shortly the task force commander was informed by the TOC that Team A was attacking. He was also informed by Teams B and C that the terrain on their axis had become very rough, was cut by deep waddies, and movement was very slow.

Several hours later, as the Mojave Desert mid-morning sun beat down on the sparse desert expanse, the battle for Red Lake Pass was reviewed by the task force observer-controller, with the assistance of digitized graphics which displayed the movement and fire of each vehicle on the battlefield. The final tally indicated that the objective had been seized by a small element of the task force, but the great majority of tanks on both sides had been killed. This had resulted from a piecemeal attack--the enemy had first fired on Team A, which had arrived at its attack position sooner than expected. Then the unplanned order to attack was given, the team advanced until they encountered the tank ditch, and they were destroyed in place. With Teams B and C

slowed unexpectedly by rough terrain, the enemy had been afforded time to reposition and to engage them as they maneuvered over the difficult terrain. Only extremely accurate gunnery and the aggressiveness of the dismounted infantry saved the day for the friendly force, destroyed the enemy on the objective, and allowed a modicum of mission accomplishment. On the other hand, the piecemeal employment of the attacking force had dissolved the numerical advantage enjoyed by the attacker and almost resulted in defeat in detail.

Obviously, there were some basic problems that contributed to this undesirable outcome. Tac air had been planned but had been diverted for a higher priority mission. Communication systems had broken down. Untrafficable terrain had not been reported by a patrol that supposedly covered the same terrain the previous evening. But the basic problem translates into a failure of command and control. The plan had been designed to bring the vast firepower of an armor heavy task force to bear on an outnumbered enemy in a synchronous manner. It was a sound plan, but it was poorly controlled and executed.

AirLand Battle doctrine requires highly mobile forces to move quickly, strike deep with overwhelming firepower at the enemy's second echelons while continuing to engage along the front line and in the friendly rear, as necessary. Although much attention has been focused on the operational art and on activities at corps level and above, the basic requirement for leaders and soldiers at brigade and battalion level to execute mounted, coordinated, violent attacks is the foundation for all

other actions on the modern battlefield. Says Brigadier General Edward S. Leland, commander of the National Training Center at Ft. Irwin,

> The requirement to synchronize forces and firepower at the critical place and time is a fundamental tenet of Airland Battle doctrine which is easy to understand yet extremely difficult to achieve in the fog of war. Commanding from a buttoned-up armored vehicle, in MOPP IV, with half the battlefield clouded by smoke, radio nets partially jammed, and some key leaders dead, lost, or not reporting is not a trivial task.1

The purpose of this paper, then, is to examine the art and practice of command and control of mobile forces as it has developed during wars over time to seek the common threads, principles, and procedures that have guided successful commanders to victory in the attack. Principally, past experiences of foreign armies will be reviewed because it is assumed that American wartime lessons learned have been considered, for the most part, in current U.S. Army doctrine. The emphasis will be on the art, not the science. There will be no discussion of the ideal TOC set up, or which radio should be on what net. What is sought are the guiding, repeated principles for the control of forces that have been proven successful in history and that should be considered in planning for future battles.

CHAPTER II

METHODOLOGY

The intent of this study, as previously stated, was to screen available documents to determine what command and control methods have been successful from a historical perspective. Therefore, the research method employed was a survey of the literature. First, secondary sources were reviewed to obtain the broad view of command and control practices as employed by history's great military leaders. After this perspective was gained, then further research was conducted into specific unit actions and wartime experiences using the documents available in the archives at the U.S. Army Institute for Military History. As will be evident later, the farther back one goes in history, the more writings focus at the large unit (Army, legion) level. However, the methods and techniques of command and control in Frederick the Great's and Caesar's eras have, in some cases, been adopted in more modern battle experiences and are selectively applicable at any unit level. Third, observations and lessons learned during heavy task force operations at the National Training Center, Ft. Irwin, California, were reviewed from current documents to bring the focus to the present time. The National Training Center, while not actual combat, represents

the most rigorous evaluation of task force operations ever conducted in a peacetime training environment, and those lessons should form an integral part of any investigation of this type. Finally, literature on proposed systems that are still in the research and development stage were reviewed to project the command and control environment onto tomorrow's battlefield. The end result of this research was projected by the author to indicate common command and control principles, proven over time, that should be integrated into any future doctrine, regardless of the speed of technology's drive.

CHAPTER III

DISCUSSION

The Early Years. War is not a modern invention. Great battles have raged throughout history, perhaps the best known of the early period being those fought between the Greeks and Romans. There was little method in controlling Greek forces, given the lack of signaling devices that existed in the years Before Christ (B.C.) and the short, violent nature of early battles at close range. Commanders in the field were faced with a single basic dilemma. In order to have any effect on the battle, the commander had to position himself at the decisive point on the battlefield. Indeed, the mere presence of the commander, marching in the midst of his soldiers, was extremely important as a motivating and confidence building factor. However, standing at the decisive point often meant losing all control over the rest of the battlefield, even when fronts were as small as one or two miles. Forced with making a choice, most early Greek commanders followed the example of the Spartan, Agesilaos, by positioning themselves at the decisive point and exercising some control of their forces rather than trying to control all of them with little effect. Despite these difficulties in control, the real emphasis appeared to be on command. The true significance of the commander's presence,

fighting alongside his men, is perhaps best shown by the fact that an army whose field commander was killed in action would continue to fight and win, as happened at Mantinea II in 361 B.C. But one deserted by its commander, as Darius' forces were twice, was irretrievably lost.[2]

The Romans introduced more order and control in battle through the organization and training of the Roman legion. The Roman's instituted tactical drill coupled with a deployment that gave subordinate commanders at the lowest levels the means, as well as the opportunity, of exercising their own initiative. They formed permanent, well-organized, integrated units--the century, maniple, and cohort--and instituted an efficient system of tactical communications at the lowest level using trumpets, banners and standards for signalling.[3] Their deployment on the battlefield made the Roman legion a tight-knit fighting force, responsive to the commander's will, and were the essential elements of a command system that for hundreds of years turned the Roman legion into the symbol of victory in the field.[4]

It should be noted that during this time planning was done by the commander without the use or benefit of a staff. Rarely, if ever, is there any evidence of a written order or plan. The commander merely gathered his subordinate commanders in a prominent position and explained to them what he wanted done. However, several command and control principles had begun to emerge. The successful Greek and Roman commanders, regardless of the size or level of command, moved with their troops, well forward, and positioned themselves at the decisive point. The

Romans added the principle of permanent organizations which permitted action drills, basic movements, and coordination. Lastly, battlefield initiative was extended to commanders at the lowest levels.

In the 14th century, the introduction of the longbow by the British had a major impact on the face and procedures of battle. The longbow changed the nature of tactics and, with it, the nature of battlefield command. With the longbow, shock was replaced by missile power as the decisive element. During earlier times, with greater reliance on shock, engagements were characterized by hand to hand combat of relatively short duration. The resulting confusion left those battles less subject to control. However, as missile power grew in importance, with its attendant relative separation of forces, it became easier for the commander to stand back at some point and direct his forces to engage or disengage.[5]

In the 18th century, the rudiments of a staff and staff work began to emerge. The quartermaster general began to tackle the basics of intelligence gathering on the battlefield. Although staffs were mostly ad hoc, with no staff colleges or staff manuals appearing until the French Revolution, written orders began to appear and the benefits of coordination of units and firepower became more evident. At Waterloo, it was found that when artillery was employed with cavalry or infantry the effect of its fire was magnified.[6] Yet, despite increased lethality, many conditions and practices remained the same. Neither Genghis Khan nor Napoleon could have executed their distant campaigns without affording wide latitude for action and initiative to

subordinates. During the American Civil War in the next century, the battlefield means of command and control for the tactical commander were still much the same as in Alexander's day at Arbela--discipline, training, voice, signal and messenger, and personal example.[7]

There was, however, one significant technological advance that greatly enhanced command and control, the telegraph. This device made possible the smooth mobilization and deployment of armies and permitted some degree of control over forces 200 miles apart. However, with the new technology came new vulnerabilities, as shown by the tapping of wire lines by both sides during the American Civil War and by the Austrians in 1866 during the Prussians' Koniggratz campaign. Indeed, it was Moltke himself who wrote that "no commander is less fortunate than he who operates with a telegraph wire stuck into his back." To deal with the confusion of the battlefield in the 1870's, the Prussians decentralized command by delegating responsibility to company commanders, who became the most important link in the entire chain of command.[8]

World War I. Moltke's dictum should have been heard by the British, for with the outbreak of World War I two contrasting styles of command and control were evident on the battlefield. British commanders from battalion upward were explicitly forbidden to leave their command posts for fear that telephone contact between them and their superior commanders would be lost. In the battle of the Somme, where 60,000 British troops were lost in the first battle, the British commander, General Haig, positioned

himself at his headquarters where he believed he would be best informed of the battle actions. Instead, he was one of the worst informed men on the Somme[9], and his example undoubtedly carried farther ranging repercussions. Due to the lack of command presence at all echelons, the British system developed procedures for carefully laid plans to be rigorously and scrupulously carried out in order to overcome the confusion and lack of control on the battlefield. As General J.F.C. Fuller was to later write, "In the World War nothing was more dreadful to witness than a chain of men starting with a battalion commander and ending with an army commander, sitting in telephone boxes, improvised or actual, talking, talking, talking, in place of leading, leading, leading."[10]

The Germans, on the other hand, came to regard confusion as the normal state of affairs on the battlefield and sought a remedy not through strict regimentation on the British model but through decentralization and lowering decision threshholds. German commanders were instructed to position themselves as far forward as possible to keep in touch with the front, even at the expense of the rear, in order to maintain flexibility and the ability to exercise their motivating functions.[11] A 1918 German training directive on the attack clearly established the point: " 'The danger lest the offensive will spend itself is great. The dead point must be overcome by the energy of the commanders, located far in front, and by the stream of fresh reinforcements from the rear. . . . The greater the mobility of the attack, the farther forward is the proper place of senior commanders, often

on horseback.' "[12]

A second technique was employed by the Germans to aid command and control at the higher levels--the "directed telescope," in Van Creveld's terminology. General staff officers were deployed daily to specific areas on the front lines to observe and report on the situation. Since German units up to corps level were formed on a regional basis, staff officers visiting their assigned sector of the front would often encounter personal friends with whom it was possible to converse informally, thus cutting across the normal reporting system.[13]

The trench warfare which characterized World War I brought again into focus the role of artillery and the importance of infantry-artillery coordination. Attacks represented attempts by one side to blast a hole in the entrenched enemy's line large enough for the infantry to exploit. The British system was for soldiers to march straight ahead and, in coordination with artillery fire, to execute rigid, timed plans. German infantry followed closely on the heels of a rolling barrage. Neither system proved particularly successful. In the absence of a reliable portable radio, infantry-artillery coordination was not satisfactorily solved by any belligerent in World War I.[14]

World War II. World War II ushered in the modern era of maneuver warfare with increased participation by combined arms to increase versatility and destructive advantage. Mobility and armored operations were patented by the German blitzkrieg which was based on careful planning and violent execution. Subordinates were permitted wide latitude of initiative in attaining desired

objectives. Those armored operations, in the words of Generalfeldmarschall Albert Kesselring, required "quick decisions on the part of the leaders, as well as versatility, audacity and daring."[15]

At the war's outbreak, the Soviets were ill-prepared for such requirements. Their army's leadership had been decimated by Stalin's purges and had demonstrated severe ineptness in the Russo-Finnish War of 1939-1940. The Soviet leadership was characterized by formality and rigidity which did not allow for flexibility or mission change once an attack was launched.[16] According to German General von Mellenthin, chief of staff of XXXXVIII Panzer Corps, "The inability of at least the lower Russian commanders to deal with fluid combat conditions when the initiative was lost and the Russians could not function within their prepared plan of operation represented their greatest vulnerability in the war."[17]

A key contributor to Soviet inflexibility in maneuver warfare was the fact that only the company commander's vehicle had a radio, whereas on the German side each tank had a radio.[18] One former member of a Panzer battalion operating on the eastern front said, "If an enemy unit is caught unawares and unprepared for action, a lightning assault will increase the enemy's confusion and guarantee success, since owing to poor tank-to-tank radio communication the Russians are not able to improvise or countermand orders quickly."[19]

This situation undoubtedly contributed to many early Soviet failures. Soviet tactical command and control later improved through greater use of radios, forward command posts and air-

craft. One Soviet general officer stated that Soviet army leaders emphasized the importance of personal meetings among commanders. In describing the control of a tank corps in the exploitation in 1945, Major General M. Sakhno stated, "For careful coordination and assignment of missions to the units, the commander of the corps and his second in command go out personally into the combat formations and assign missions on the spot."[20]

On the other side of the conflict, the Germans were better organized and prepared for the speed of the new warfare and its attendant requirements for quick decisionmaking. The principles of radio-based command that in large measure still exist today were developed by two ex-signal officers--Heinz Guderian and General Fritz Fellgiebel.[21] Combat orders were short and to the point and often verbal. Describing the action of the XXXXVIII Panzer Corps in the vicinity of the Chir River in December 1942, General von Mellenthin said,

> Orders were exclusively verbal within the panzer division [11th]. [General] Balck made his decision for the next day during the evening, and he gave the necessary orders verbally to his regimental commanders on the battlefield; then he returned to his main headquarters and discussed his intentions with the chief of staff of the XXXXVIII Panzer Corps over the phone. If approval was obtained the regiments were sent the wireless message; 'no change,' and all the moves were carried out according to plan. If there were fundamental changes, the divisional commander visited all his regiments during the night and gave the necessary orders, again verbally.[22]

This degree of flexibility was made possible in large measure by the principle of Auftragstaktik, in which subordinate commanders, faced with an uncertain situation and in the absence of orders, were expected to act in accordance with the wishes and intent of the higher commander as if he were there to express

them. The Germans approached this level of control and action by careful leader preparation and focusing on the schwerpunkt. General von Senger und Etterlin, who was a junior officer in the 24th Panzer Division, described the process at the 1984 Art of War Symposium: By starting everyone as privates, all soldiers learned the general tasks of everybody in battle. Since everybody was trained in these skills, it was not necessary to give him orders about them. This contributed enormously to the shortness of orders at all levels. "So if you start to give out orders about . . . skills of war something is wrong with the auftragstaktik." Also contributing to the ability of subordinate commanders to act was the fact that leaders were trained two levels higher in every respect. Said General von Senger, "So people were lifted up to the higher level in order to give them the wider horizon and to understand Paragraph 3A, the concept of your higher commander."[23]

At the same symposium, Gereral von Mellenthin expanded on the second point. ". . . you have to have a schwerpunkt, a point of main effort. Otherwise, an offensive will not have character. The action of the 11th Panzer was mainly to destroy enemy armor moving through the infantry."[24] In writings based on World War II experiences, Kesselring echoed the point. "Of decisive influence on the course of an operation is the choice of a point of main effort. . . . All missions must have as their objective the destruction of the enemy. . . . The seizure of terrain is not a combat objective. The objective is the destruction of the enemy."[25]

The importance of subordinates knowing the commander's intent was also realized by the Russians. Major General N.P. Polev, in describing the offensive operations of a Soviet rifle division, stated, "The definition of the battle intention, which consists of the stipulation of the goal, selection of the direction and sector of the main thrust, and indication of the consecutive order and method for achieving the goal of the battle, constitutes the most important part (idea) of the decision process."[26]

German doctrine regarding the position of the commander in the combat formation did not change from previous practices. At the 1985 Art of War Symposium, Colonel Rothe, who was a regimental adjutant in the 7th Panzer Division, stated, "The Division Commander [General von Manteuffel] was always in his combat car beside us. One of the most important things in leading a panzer division . . . was that it be commanded from the front, and not from the back."[27] This undoubtedly filtered to the lowest command levels.

Coordination of combined arms operations improved on both sides as the war progressed. When Hitler ordered Guderian in 1943 to take charge of the armored forces, one of Guderion's first decisions was to replace all school instructors with seasoned veterans who emphasized the importance of cooperation and coordination among all the individual arms. Prior to that time, artillery was regarded by panzer leaders as a rather useful weapon, but one which was dispensable. For example, if the artillery were not ready on time, an attack would simply be launched without it. This practice ceased completely as a result

of the new emphasis.[28] The Soviets also had learned the value of artillery support by that time. They increased the artillery available to commanders and adopted the technique of the artillery offensive, which called for systematic preparation fires, systematic fires during penetration, and systematic fires during the exploitation.[29] To demonstrate the level of importance granted to the artillery by the Soviets, General Polev said, "As soon as the artillery preparation gets underway, the divisional commander personally observes its progress. . . ."[30]

Air power was another new combat multiplier introduced in strength on the World War II battlefield. In each Soviet formation there was a representative from the air unit who participated in mission planning and questions of cooperation between tanks and aviation.[31] The German army also had FACs on their divisional staffs and fought to retain the equipment below division level that would permit smaller unit commanders to talk to aircraft. Colonel Stoves, who entered the war as a platoon leader in Tank Regiment 1, 1st Panzer Division, stated, "We had orders from the High Command to turn back that equipment. We said, 'Okay, we'll do it.' Then it hit the next tree, and we did not deliver it."[32]

The Israelis. Much has been written about the command system of the Israeli Defense Forces (IDF). In 1956, the IDF was a small force that Moshe Dayan described as relying on improvisation and lacking a strong controlling hand. They put heavy emphasis on factors of a spiritual nature to draw a balance between human and scarce materiel resources: individual daring

(*heaza*), maintenance of aim (*dvekut bamatara*) and resourcefulness (*tushia*). Dayan relied on subordinate commanders to reach their objectives in one continuous battle. He said in his war diary, "To the commander of an Israeli unit I can point on a map to the Suez canal and say: 'There's your target and this is your axis of advance. Don't signal me during the fighting for more men, arms, or vehicles. All that we could allocate you've already got, and there isn't any more. Keep signaling your advances. You must reach Suez in forty-eight hours.'"[33]

However, this system of loose control resulted in frequent misadventure. A study conducted after the 1956 war stressed the need for greater control. The Israelis continued to grant considerable independence to subordinate commanders who commanded well forward, making decisions on the spot. They required constant monitoring of radio networks. During the 1967 war, as entire battalions became lost in the sand dunes in some sectors, maintenance of aim became the primary influence, as it had been in the war a decade earlier. "As long as subordinate commanders stuck to the objectives assigned to them they were encouraged to act without waiting for orders."[34]

After the 1967 war, the Israelis developed a system of 'optional control' which allowed maximum independence to subordinate commanders while giving superior headquarters the option of interfering at any time. This system depended on mutual trust among leaders as well as excellent junior leaders. While the system had a sound basis, it was not properly executed in the 1973 war, with nearly disastrous results. From the very top level down, control was severely centralized, with emphasis

on keeping in touch--remniscent of the British at the first battle of the Somme, and coming dangerously close to similar results. Counterattack planning on 7 October, for example, was based on guesswork as to where the Egyptians should have been according to Soviet doctrine, rather than on detailed reconnaissance. Combined with other factors, such as a lack of adequate planning time and with neither artillery nor air support, the offensive resulted in the worst defeat in IDF history.[35] The Israelis had, in effect, exercised "reverse optional control".

General Mordechai Gur, when he was chief of staff of the IDF in 1978, described their modern command and control system as operating with general objectives and immediate execution as opposed to depending on detailed planning.

> The system then gains momentum, and the details are filled in even as progress is being made. . . . However, this is only possible when the bureaucratic machine is reasonably lean and fast in operation, and on condition that the information passed by it is correct and accurate. A proper command system, then, consists of a combination of thorough, even pedestrian, preparation with freedom that is granted to the imagination and to individual daring. . . . Innovation during execution itself; discipline; and improvisation--these are the three basic elements that make up the IDF's command system, even if the latter two sometimes contradict each other.[36]

Today. The conditions which most closely resemble mid to high intensity combat exist at the National Training Center (NTC), Ft. Irwin, California. Command and control of heavy task forces is evaluated in detail. Recent observations by Brigadier General Edward S. Leland, commander of the NTC, include the following points:

--To effectively control forces, a commander must SEE the battlefield. He does this by positioning well forward; by demanding fast, accurate, concise reports; by having the TOC provide processed information; and through the use of scouts, OPs and patrols.

--Commanders must receive a ground backbrief by subordinates to insure the intent of the operation is not lost.

--Given an understanding of the intent of the battalion commander, company commanders must help each other and not depend totally on instructions and information from above.

--Good navigation is fundamental to effective command and control.

--While warning orders, fragmentary orders, and face-to-face coordination are essential, there remains a requirement for written orders at battalion level in all but the most rapid reaction situations.[37]

In today's Soviet army, progress has been made in the communications arena. According to one study, "the Soviet military is quite proud of its ability to communicate in combat even when radio communications are impossible. . . . they are serious in the use of pyrotechnics and sound signals and appear to exercise troops regularly in their employment."[38] However, General von Mellenthin stated, "We know that Russian weapons and techniques have reached much higher standards; but their mentality has, in my opinion, remained relatively unchanged. . . A Russian commanding officer will not make a decision on his own."[39]

The Future. The execution of AirLand Battle and future

doctrine will be conducted with fast moving, lethal weapons systems, unlike anything in the past. Commanders at battalion and brigade levels will have to make decisions quickly, will require precise information with which to "see" the battlefield, and will need the freedom to synchronize combat multipliers available to them. A current study at the U.S. Army Armor School has identified several deficiencies which impact on existing command and control practices, among which are:

--a lack of time available for the commander to effectively coordinate the intelligence, fire, maneuver, and support of battle systems and organizations;

--a lack of accurate and timely battlefield information;

--a lack of accurate administrative and logistic support information.[40]

These deficiencies dictate that U.S. Army command and control procedures must be improved so that critical information is made available more quickly and accurately, without total reliance on slow, cumbersome, manual transmission and retransmission systems.

A number of training and technology-based solutions are being developed and tested:

--standardized command and control doctrine;

--a vehicle identification system to provide quick, positive identification of vehicles and units on the battlefield;

--continued emphasis on the importance of subordinates' understanding the intent of the commander two echelons above his own;

--the Battlefield Management System (BMS), which is the umbrella concept for development of automated command and control systems to provide real time acquisition, processing and distribution of combat information so the commander can coordinate and synchronize his combat power quickly. Through integrated hardware and software, commanders would be provided such aids as a digital map display covering both friendly and enemy forces. This capability would permit the commander to prepare plans and transmit graphic pictures of his intentions to staff officers and subordinate commanders if time precluded a face-to-face exchange.[41]

There are some who warn of the proliferation of gadgetry on the battlefield. General Donn Starry, former commander of the U.S. Army Training and Doctrine Command (TRADOC), said during an address in 1985:

> The commander really only needs to know a few things--where is he, what is he doing, who's opposed to him, how's the fight going, and what ought he be doing next. It has nothing to do with computerized systems. It has to do with what people know about what they are doing, and about where the enemy is and what he is doing. To the extent that we clutter up that world with "computers that make all the mistakes" we may be doing exactly the wrong thing![42]

An early computer pioneer, Joseph Weizenbaum, also warned, "The dependence on computers is merely the most recent . . . example of how man relies on technology in order to escape the burden of acting as an independent agent. . . . Computers can perform impressive feats of calculating. But they cannot make judgments, because judgments depend on more than information extracted from the real world; they depend on meanings."[43] And judgment is what command is all about.

CHAPTER IV

CONCLUSIONS

From this overview, it is evident that command and control provide a vital link in the application of combat power, and nowhere is this link subject to greater stress than during highly mobile, offensive operations on the confused, lethal, modern battlefield. The thought that men and weapons must be fully responsive to leadership through adequate command and control is central. From this study, several principles have been repeated over and over by those who have been successful in offensive battle.

1. The commander's intent must be clearly understood. The most often-repeated requirement for success in battle is the understanding by subordinates of the commander's intent. All armies, from the Romans, through the Germans and Russians, to present day U.S. forces have stressed this. The Germans in World War II considered it central to the theory of auftragstaktik. Without a clear grasp of the commander's intent, little else is possible and, without the strictest centralized control, combat will quickly degenerate into a confused, uncoordinated series of disparate duels.

2. A key ingredient in establishing the commander's intent

is personal contact between commanders. In the early days, when operations were planned and conducted without staffs and written orders, missions were passed personally as a matter of course. In World War II, the Soviets, particularly in the latter stages with improved communications, stressed this point. The value of looking into a subordinate's face and appreciating the stress and emotions he feels can easily be lost in a radio transmission. Additionally, meeting personally with subordinates affords an opportunity for the commander to be backbriefed to insure his intent is understood. Automated systems must supplement, not replace, this practice.

3. The combat arms commander must be positioned well forward to command and control his forces. This has been proven true through wartime experiences from the early Greeks to the present. The U.S. Army must be careful to avoid the temptation to which the British succumbed in World War I, particularly as new technology for information collection and dissemination is developed. The British fell to this temptation as a result of the last real technology breakthrough, the telegraph. BMS has the potential to render a similar reaction in the future.

4. Closely related to the principle of the commander forward is the importance of accurate reconnaissance and information flow to the commander. Napoleon and the World War I Germans resorted to "directed telescopes" to augment information provided by subordinate commanders. NTC experiences emphasize the requirement for the commander to SEE the battlefield, which requires more than the commander's own eyes. A prime example of a modern failure is the October 1973 counterattack disaster by

the Israelis, where commanders relied on projections based on Soviet doctrine rather than on actual reconnaissance. Today's practice of templating must not become more than an adjunct to the gathering of hard intelligence data about the enemy.

5. Decentralization and subordinate commander flexibility have been characteristic of successful offensive operations from Plato to NATO: The Roman legion's success, Napoleon's, the blitzkrieg, the Israeli victories. Conversely, centralization has uniformly proven disastrous. Decentralization depends on several factors for success. Leaders must know, in addition to the commander's intent, the schwerpunkt, in order to maintain a clear concept or aim. Junior leaders must be well-trained, imaginative, and courageous. Kesselring and Dayan both spoke of the importance of the traits of audacity and daring to the execution of decentralized operations. Will BMS, with its potential for gathering, processing and displaying data, tempt commanders to insist on more centralized control at higher levels? And will the availability of detailed data blunt the audacity and daring of company and task force commanders while higher echelons grapple with the "perfect" decision? The Army must guard against this. As General Leland said, "Battles can be lost at any level in the chain of command, but are only won by companies, platoons, squads and crews."[44]

6. Combat orders, whether written or oral, must be short and concise. Subordinates must be protected from information they do not need, as practiced by the Germans in World War II. Senior commanders must clearly indicate their intent and, as

previously stated, subordinate commanders must be granted the flexibility to make decisions and fight the battle. Lengthy, detailed orders do not communicate well, do not provide adequate flexibility to subordinates, and are often not read.

7. Leaders must be able to communicate. In the introduction to this study, the task force commander could not properly see the battlefield because of faulty communications. Whether it be the trumpets of the Romans or the digital display of a computer, battle leaders must be able to communicate so that commanders positioned well forward can respond to vulnerabilities or opportunities with speed and coordination. Despite the existence of this requirement since the days of Genghis Khan, no truly dependable, uninterruptible method has yet been developed.

8. The requirement for artillery and air integration with maneuver has been recognized since the trench warfare of World War I. The systems and methods have progressed from the British and German practices of that day, but the integration of combined arms has not yet been satisfactorily solved and demonstrated. Perhaps BMS will contribute to this challenge. A reading of recent military history points to the absolute necessity of participation of artillery and air force planners with maneuver elements. The efficient integration of those multipliers continues to be the focus as contemporary joint doctrine is developed.

The conclusions drawn are not revolutionary, nor are they terms or principles heretofore undiscovered. However, they have been ignored or overlooked in various periods of warfare since the invention of the mace. Technology will march on and provide

new aids for commanders as it has previously. However, I contend that the foregoing principles have stood the test of time and will be applicable on any future maneuver battlefield. It is most important that they remain incorporated in the doctrine.

The French military theorist, Ardant du Picq, wrote:

> Experience is long and life is short. The experiences of each, therefore, cannot be completed except by those of others. The study of past campaigns is the most obvious method of filling in the gap between personal experience and the breadth of knowledge needed by those whose business it is to anticipate the requirements of future warfare.45

It is hoped that this study will make a small contribution toward ordering those experiences for those who will command during future wars.

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