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ONE TANK, 31 BOXES OF .50 CAL. AND 11 MEN: AN ANALYSIS OF
THE ARMOR-INFANTRY TEAM IN KOREA, JUNE 1950 - JULY 1952.

A thesis presented to the Faculty of the U.S. Army
Command And General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

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by

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This thesis analyzes the ability of the United States Army to incorporate the lessons of history in the evolution of doctrine. The analysis focuses on armor-infantry team doctrine and uses task force level operations during the Korean war to resolve the analysis issue.

The study conducts an analysis of armor-infantry doctrine from its conception in Army manuals in 1941 through 1950. Capstone doctrinal material such as Field Manual 100-5, Operations, and battalion level manuals are examined. Other relevant doctrinal material is included to create a detailed picture of how the armor-infantry team was to conduct operations.

Unit structures and training are also examined to determine the ability of committed units to implement doctrine. Published doctrine is then compared to actual armor-infantry operations during the Korean War.

The study concludes that the Army effectively included the lessons of World War II in the development of armor-infantry doctrine. Regardless of the literature and the opinion of senior military leaders that doctrine was understood, the field army failed to understand and implement basic armor-infantry doctrine during the Korean War. The study also concludes that the successful implementation of doctrine requires adequate support systems, tailored organizations, and realistic training. (SDO) 

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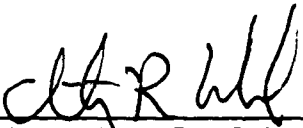


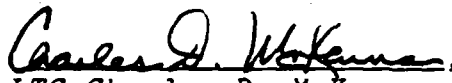
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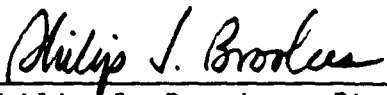
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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the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

ABSTRACT

ONE TANK, 31 BOXES OF .50 CAL, AND 11 MEN: An analysis of the Armor-Infantry Team in Korea, June 1950, through July 1952, by Major Ronald D. Offutt, U.S. Army, 142 pages.

This thesis analyzes the ability of the United States Army to incorporate the lessons of history in the evolution of doctrine. The analysis focuses on armor-infantry team doctrine and uses task force level operations during the Korean war to resolve the analysis issue.

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CHAPTER 1

DOCTRINE AND THE ARMOR-INFANTRY TEAM

The Platoon Sergeant told us that when we went out with the infantry, that we were to load up 31 boxes of .50 cal and that each tank would have to carry eleven men.¹

Tank Commander
Korea, 1951

In a speech given at Winston-Salem, North Carolina, on 20 January 1950, Secretary of the Army Gordon Gray described the Army in these glowing terms:

. . . the Army today is an outstanding part of the finest peacetime fighting force our nation has ever had. . . . We learned a lot about modern armies during the war, and we have learned a lot more since, in various and continuing studies and experiments. We are applying these lessons as fast as they are proven, and the results have more than justified the time and effort that we spend on such matters.²

At the same time this speech was presented, General Walton Walker, Commander of the Eighth Army in Japan, began an incremental training program which would culminate with division level exercises in June. The June training tests

would be the first planned divisional exercises in the Far East since World War II.³

The initial battalion level exercises resulted in dismal performances and the relief of several battalion commanders. The outstanding peacetime fighting force of Secretary Gray's address was not stationed in Japan.⁴

In Montgomery, Alabama, on October 25, 1949, Secretary Gray spoke on the role of ground forces in modern war saying:

The Infantry-Tank-Artillery team is recognized throughout the world as an essential element to any military success; and this team cannot approach full effectiveness until joined by adequate tactical air support, fighter and light-bomber elements thoroughly trained in ground-support missions. Such a combination quite probably will carry the final and decisive stages of any war we might face for some time to come.⁵

Regimental tank companies of the Far East Command were ceremonial and obsolete. Lack of training areas and austere budgets precluded combined arms training. Far East Air Force units conducted little or no training in the ground support role. The tight, well-trained combined arms team mentioned by Secretary Gray was also not stationed in Japan.⁶

The rhetoric of the Secretary of the Army paints a picture of the Army of 1950 as a dynamic, robust organization ready for the rigors of war. Initial combat performance by American units in Korea paints a different picture exposed to the harsh light of reality. Faced with crippling budgets and a lack of mission, the Army struggled to find a role as a part of the national security policy.

Sixty percent of the officers on active duty were under thirty-five years of age. Enlisted men averaged only twenty-two years of age. The Army, which had been one of the largest in the world at the end of World War II, had rapidly demobilized sending the citizen-soldier home. The mass exodus of soldiers also meant that the Army had lost valuable combat experience.⁷

The most important process with which the military distills and retains wartime experience is through the development of doctrine based on lessons learned in combat. These combat lessons are significant factors in the development of doctrine. In spite of this recognition, the impact of military history on doctrine is often overshadowed by other concerns. The emphasis on factors such as the military budget, technology, and our perception of the threat, often indicate a short term approach to the solution of doctrinal problems. This sentiment is exemplified by

Major Paul Herbert who described the impact of the Korean War on the recent evolution of military doctrine in this manner:

The Korean war, the U.S. Army's most recent experience in classical campaigning might as well not have happened for all its impact on the doctrine of the 1970's.⁸

Military history is the most neglected, and potentially the most important factor in the evolution of doctrine. An examination of the past performance of soldiers in combat has the greatest potential for making doctrine more efficient because it is the first place that men are added to the formula of war. There are many examples, often quoted by both military historians and educators, of famous generals who have spoken emphatically of the contribution of military history to their success. Napoleon, Frederick the Great, and George S. Patton were great military leaders who wrote about, and learned from military history. Unfortunately, this belief is not universal among modern officers.⁹

The contribution of military history to the evolution of doctrine can be measured in many different ways. The measure is most convincing when examining recent wartime experience and analyzing the lessons learned by the

participants. Combat information, examined and analyzed, can then be measured against subsequent combat actions. Forces under examination must be similiar in organization and function. They must also be examined while operating in roughly the same environment.

The sum of these examinations can ultimately result in a consistent portrayal of the relationships between men and the other factors of war. It is here that the influence of military history should become obvious and persuasive. These relationships may be as simple as the requirement to continuously maintain contact with the enemy, or as complex as a fire support plan for a movement to contact. In either case, this overwhelming historical evidence should be integrated into the development of doctrine. Failing to integrate historical evidence into the development of doctrine ignores consistent evidence on how to succeed in war.

In order to establish the potential benefits that doctrine could receive from a proper analysis of military history, two steps must be taken. First, you must conduct a proper analysis of a specific theme or relationship in military history. This analysis should cover sufficient time and combat experience to require a change in doctrine. Second, you must resolve the question, "Do we listen to the

lessons of history when we develop doctrine?", by examining both the written doctrinal literature and the performance of units in combat. The examination of history to determine the impact of warfare on the force structure and doctrine of the Army is not unique, nor is it without precedence. In the 1935 Annual Report of the United States Army to the Congress, Chief of Staff for 1935, General Douglas MacArthur said:

The facts derived from historical analysis, he [the Army Officer] applies to the conditions of the present and the proximate future, thus developing a synthesis of appropriate method, organization, and doctrine.¹⁰

Historical analysis, as described by General MacArthur, retains relevance for most serving officers. It focuses its examination on specific doctrinal concepts and traces them throughout the history of warfare.

The history of war offers many significant opportunities to determine the impact of military history on doctrine. Of particular importance is the impact of military history on the doctrinal relationships of armor and infantry soldiers. Combat lessons learned by soldiers as a part of the armor-infantry team, form the basis of effective implementation of both current and future armor-infantry doctrine. The relationship of armored and

infantry soldiers during the first years of the Korean War is especially important for several reasons.

First, this is the most recent example of large United States forces involved in a conventional war with large numbers of armored and infantry formations. There are, secondly, numerous battlefield examples of the interactions between armored and infantry soldiers. These case studies run the gamut of tactical missions performed by armor-infantry teams in combat. Additionally, there are reasons to study the Korean War which are even more compelling.

In 1950, when the United States committed ground forces in Korea, World War II was fresh in the memory of all Americans. Military periodicals of the day are rich in the study of combat actions of World War II. Contributing authors include S.L.A. Marshall, J.F.C. Fuller, Heinz Guderian, and B.H. Liddell Hart. The insight provided by these authors on the battles and decisions of World War II reinforced the lessons already learned.¹¹

The Army of 1950 was led by combat veterans. Their experience in war should have directly influenced the development and implementation of Army doctrine for the employment of armor-infantry formations. The doctrinal employment of United States Army units should have been

sound, based on these factors alone. Lessons learned through hard fighting at the Kasserine Pass, the pursuit following the breakout at St Lo, and the battle of the Bulge, provide a bedrock of no-nonsense tactical doctrine which should have facilitated combat operations in Korea.

In order to make a definitive statement concerning the Army's ability to effectively integrate historical analysis into the development of doctrine, several different areas must be examined.

The first requirement is the establishment of a historical basis for the employment of armor-infantry formations. This can be accomplished by taking a short look at the development of doctrine that evolved as a part of wartime demand. A focused examination of the doctrine during World War II can be obtained by studying the Army Field Service Regulations, FM 100-5, Operations, circa 1941 and comparing it to the same Army manual used in 1944 and 1949. This "before and after" comparison will provide insight into the way the American Army planned to fight. Prior to World War II, armor-infantry doctrine was in its infancy. Following World War II, the full impact of that conflict should have profoundly influenced doctrine.

While this comparison will provide significant insight at high levels of doctrine, it may not have been

relevant to the soldiers asked to do the job on the ground. For this reason the examination of the 1944 FM 7-20, Infantry Battalion, and its comparison to the 1949 manual will also be conducted. A comparison of the stated Army doctrine for the employment of the infantry battalion will provide a "worms-eye view" of what organizations and men were expected to do as a part of armor-infantry teams. Additional doctrinal information will be included to develop a clear understanding of how the armor-infantry team was expected to work together prior to the Korean War.

The second major area to be examined is the force structure of the United States Army prior to the Korean War. The force structure of an Army must reflect its doctrine of employment. If it does not, then the force structure is inappropriate to carry out the stated doctrine. The transition from the Active Defense Doctrine of the mid 1970's to the Army's current Air Land Battle Doctrine, is a graphic example of force structures struggling to keep up with concepts. Today, current doctrine is ahead of the equipment and organizations which are currently deployed in the field. Units expecting to implement Air Land Battle Doctrine must wait until new equipment and organizations are on the ground before it can be effectively implemented.

Organizations relevant to this study are the standard 1949 infantry and armored divisions. The effects of doctrine on the organization of both of these divisions will be examined in the study.

An examination of the technology available for the employment of the doctrine in 1949 will be made. The examination will be restricted to the study of the equipment of armored and infantry organizations which significantly impacted on their ability to execute an armor-infantry team mission. As a part of this examination of technology, the training conducted by armored and infantry organizations must also be examined to determine if the capabilities of the available equipment were realized. All military organizations place a premium on realistic training. This also requires the use of wartime equipment in a manner consistent with its wartime purpose.

This essential background material will form a coherent picture of the equipment, organizations, and doctrine used by Army units in the execution of tactical missions prior to the Korean War. These organizations, their equipment, and doctrine should have been based in large part on the recent experience of World War II. It should also have served as a sound basis for any future combat operations by United States ground forces. The next

step will be to validate, through case studies, the Army's ability or inability to take these concepts and actually use them in a theater of war.

The early years of the Korean War provide many case studies of armor-infantry teams in combat situations. These cases include all types of offensive and defensive operations. Combat studies provide insights as to the adequacy of the Army's doctrine and its ability to implement doctrine during combat. Since the World War II experience of the nation was so profound, the impact of that history on the Army's doctrine should have been assimilated into Army doctrine after the war. This proven doctrine should have been validated in combat actions in Korea.

The examination of armor-infantry teams and the doctrine which was developed as a result of World War II, and the subsequent use of armor-infantry teams in Korea, serve two purposes. It provides a definitive statement on the ability of U.S. Army leaders to distill the lessons of military history and address their ability to include these lessons in the development of future doctrine.

CHAPTER 2

ARMOR-INFANTRY DOCTRINE, 1946-1950

War is of vital importance to the state. The province of life and death; the road to survival or ruin. It is mandatory that it be thoroughly studied. Therefore; appraise it in terms of the five fundamental factors and make comparisons of the seven elements later named. So you may assess its essentials. The first of these factors is moral influence, the second weather, the third terrain, the fourth command, and the fifth doctrine.¹

Sun Tzu, The Art of War

Sun Tzu ended the introduction to his primer on the art of war by listing doctrine as the fifth fundamental factor in war. Since Sun Tzu trained the concubines of the King of Wu in the doctrine of his age, war has changed immensely. The success of nations in war has confirmed the value of doctrine in the employment of large armies. In order to understand the context in which doctrine is developed, significant historical events of the period must be examined. These events provide significant background information and a framework for an understanding of how doctrine evolves.²

Four significant factors influenced the development of the doctrine of the United States Army between 1946 and 1949. These factors were the use of the atomic bomb to end the war with Japan, the demobilization following World War II, the allocation of military resources, and the rapid geographic expansion of communist ideology.

The detonation of the first atomic bomb on Hiroshima at 8 o'clock on the 6th of August, created a tool of immense military power. The ability to use the Atomic bomb as projection of military power set adrift the doctrinal concepts with which the United States had won World War II. While the Air Force and the Navy, capable of delivering the bomb, retained a vestige of doctrinal integrity, the Army had no such capability. The Army fell into a malaise, apparently unimportant to the national defense.

Contrary to the "careful consideration" described by Doughty in his characterization of the development of Army doctrine following the end of World War II, the Army scrambled to find a reason to exist. Prominent Army leaders did argue that the future contribution of the Army to the defense of the nation was indispensable. Lieutenant General Joseph Stilwell, Chairman of the War Department Board of 1946, described future conflict as one in which a surprise attack would be followed by a "retaliation with bombing,

long range missiles, and biological weapons." Aggressor nations prostrate from the United States counterattack, would be subjugated by the "occupation of the hostile territory." General Omar Bradley, the Army Chief of Staff, in an article in the May, 1949, issue of the Military Review, described future conflict in three phases. In the first phase, the United States would employ its strategic weapons against the enemy much in the same manner described by Stilwell. In the second phase, American military forces would seize key areas to provide bases from which to strike the enemy homeland; and finally, in the third phase, large-scale ground assaults would destroy the enemy homeland. The only bright spot for the Army in this concept, was the strategic mobility of Army airborne forces which could seize the bases needed during phase two.³

In all of these scenarios the Army played a secondary role. The expanded role of the Air Force and Navy decreased the power and prestige of the Army. Enamored by the power of the atomic bomb, the Army dedicated resources to develop their own delivery systems and doctrine of employment. This focus caused doctrinal innovation in the area of conventional ground forces to languish.

Demobilization of the American Army following World War II was a debacle. The clamoring to "bring the boys

home", traditional after every American conflict, occurred again after World War II. An American war machine built with hard work and dedication by the entire nation ceased to exist almost overnight. The personnel strength of the Army was reduced from 8 million men and 89 divisions in 1945, to 591,000 men and 10 divisions in 1950. The Army, without the popular appeal of the fight against Nazism or retribution for Pearl Harbor, was unable to induce men to enlist. In order to maintain force strength, the Army lowered entrance requirements. General J. Lawton Collins stated that the lower mental and physical requirements for induction resulted in an Army with 43% of its soldiers in the lowest mental categories.⁴

A significant by-product of demobilization was the Secretary of War's Board on officer-enlisted man relationships, headed by Lieutenant General James H. Doolittle. The board was convened in 1946 to study the inequities of what was termed an officer-enlisted man "baste system". The board interviewed 42 witnesses and read approximately one thousand letters. Letters reviewed by the board were negative about the Army and its officers. In the majority of these cases, the ex-soldier had a right to complain and had been improperly treated. Recommendations of the board resulted in the destruction of traditional

officer, noncommissioned officer, and enlisted soldier relationships. Army leadership was paralyzed and searched for a means to reestablish an environment of mutual obligation and responsibility. T. R. Fehrenbach described the impact of the Doolittle board when he said:⁵

A deadly thing had been done to the Army, which even the Army had not yet fully understood. . . . In making an Army of eight million men, the Army had commissioned many thousands of men that should never have risen above PFC.

Basically, there were two ways to reduce the abuses of power in the service. One was to overhaul the officer procurement system, make damned certain that no merely average man could ever be commissioned, and have fewer officers, but better ones. The other way was to reduce the power to abuse anybody. The Doolittle board, probably thinking of a long period of pleasant peacetime coming up, in early 1946 chose to recommend the second. It was a good idea, but it didn't work. The company commanders in Japan had the girls run in and out of the barracks, had men talk back to them, and didn't know what to do about it. . . . That kind of thinking had gone out with the horse, with saluting except on duty, with the idea that you should respect a sergeant.⁶

The greatest Army in the World in 1946 was not only besieged by external influences, it also began to rot from the inside.

The Army's battle for funding was lost. The role of the Army in the 1949 Department of Defense was secondary. Louis Johnson, the Secretary of Defense in March, 1949, adopted a national defense strategy based almost entirely on strategic air power. This defense "on the cheap" allowed him to get rid of what he termed "costly war-borne spending habits" and reduce defense spending below the ceilings recommended by President Truman. Army and Navy strength was drastically cut, while that of the Air Force was increased. Even with the priority of resources and men, the Air Force was able to field only 48 of the 80 wings they felt were required to defend the nation. All three services were paupers with world wide missions and commitments.⁷

The turbulence of the world in the years following World War II served to reinforce the perception that America faced a single world wide threat in the form of communism. Following World War II, communist expansion in Greece led to civil war. There was turmoil in Italy, again inspired by communism. In 1947, the countries of the eastern bloc rejected Marshall Plan aid, after being bullied by the USSR, in spite of the initial interest displayed by some members.⁸

In June of 1948, the USSR moved to force the British, French, and Americans out of Berlin by blockading rail lines and roadways through the Soviet occupation zone. General

Lucius D. Clay, the American military governor, devised the Berlin airlift to supply the city and eventually succeeded in lifting the blockade. This series of conflicts between world democracies and an emerging communist empire culminated in September of 1949. Early in the autumn of that year, the Soviet Union exploded its own atomic device and the second superpower was born.⁹

As the United States searched for an effective means to deal with the responsibilities being of the world's leading power, the Army searched for an effective doctrine in the Atomic age:

As the music started up in Seoul, in Kokura, Japan, Major General William Frishe Dean was the guest of honor at a 24th Division Headquarters costume party. Which was one way for infantry to try to forget Secretary of Defense Louis Johnson and his fat-cutting, the super carrier, the Strategic Air Command, and the nagging feeling that in the atomic age footsloggers might be obsolete.¹⁰

In spite of the travails the Army underwent in the years between World War II and Korea, Army doctrine did evolve. The evolution of armor-infantry doctrine in these years can be found in the general concepts for the employment of the Army as described in the Field Service Regulations, FM 100-5, Operations. This manual, with

editions published in the years 1941, 1944, and 1949, describes the doctrinal employment of armor-infantry units. The Field Manual for the employment of the infantry battalion, FM 7-20, Infantry Battatlion, examined at the same intervals, further refines armor-infantry doctrine. Additional doctrinal literature of the period provides insight into the increasing awareness of the combat potential of the armor-infantry team.

FM 100-5, Operations, 1941

The Army entered World War II with the capstone doctrinal manual, Field Service Regulations, FM 100-5, Operations. It was a collection of concepts untried in battle. Since the publishing of the manual in May of 1941, the world, and the armies who had shaped it, had changed. A review of the manual, focusing on the employment of armor-infantry teams, provides evidence of the impact of military history on doctrine.

The first noteworthy point is revealed on page III in the Table of Contents. Armor does not exist as an arm or service. The three primary arms of the service at the time were the infantry, cavalry, and artillery. A closer examination of the contents finally reveals the role of

tanks in the Army of 1941 under obscure sub-titles in the Table of Contents. Tank functions and capabilities are mentioned as a part of the description of the armored divisions and the General Headquarters (GHQ) tank battalions. Tanks are also given doctrinal roles as a part of the description of infantry missions and capabilities.¹¹

The principle arm of the Army in 1941 was infantry. Army doctrine of 1941 specifically states that whenever infantry elements faced a force of combined arms, the limited firepower of the infantry must be adequately reinforced by the support of artillery, tanks, combat aviation, and other arms. The manner in which this statement is written implies that infantry in combat would face enemy combined arms formations as an exception rather than as a rule.¹²

The description of the missions and capabilities of the cavalry can be translated into similar tasks conducted by armored formations of the period with some exceptions. These exceptions are in the description of the cavalry as a force capable of operating in all weather and all types of terrain. The mission and capabilities of the cavalry in the 1941, FM 100-5, Operations, addresses the role of mechanization in the conduct of security missions.¹³

An extensive discussion of the role of armored elements can be found in the description of the missions and capabilities of the armored division. The division consisted of five separate echelons. These echelons are listed as command, reconnaissance, striking, support and service. Conceptually, the command and reconnaissance echelons conducted the same tasks as those of an infantry division. The striking echelon of the armored division consisted of the division's tank battalions. Armored-infantry battalions were assigned to the supporting echelon and conducted offensive operations in the following manner:

The infantry element of the support echelon is transported in armored personnel carriers. It remains mobile as long as the situation permits. When assigned the mission of following the striking echelon, it follows closely; prepared to overcome the remaining hostile resistance in the areas over which the tanks have passed, to occupy and hold the ground gained, or to cover the reorganization of tank units during the course of the attack. Prior to the attack by the striking echelon, it may be used to develop the enemy situation with a secondary attack supported by artillery, combat aviation, engineers, and, when necessary by some of the tanks.¹⁴

It is clear from this extract of the manual that the doctrine for the employment of armor and infantry elements

was to be conducted in separate and distinct echelons. These echelons; while complimentary, were not envisioned as mutually supporting. Armor was expected to strike, penetrate, and out-manuever less mobile formations, while the infantry of the supporting echelon followed and administered the killing blow. Motorized (truck borne) infantry elements followed the armored-infantry and relieved them so that the armored-infantry could continue their support of the armored spearhead.¹⁵

The non-divisional tank battalions of the General Headquarters tank group allowed the commander to design additional units capable of functioning in the same manner as the armored division. The expectation, that a combined arms force constructed in this manner could perform the same missions as an armored division, ignores the obvious training and command and control difficulties.¹⁶

There is a striking contrast in the level of detail in the description of the functions and capabilities of the armored division when compared to that of the infantry and motorized infantry divisions.

It is interesting to note that while armor was not an arm in 1941, FM 100-5, Operations, dedicates fourteen pages to the description of the missions and capabilities of the armored division and only two to those of the infantry

division. The recent history of the French and British defeats at the hands of German armored formations undoubtedly called for a clear understanding of the role of armor in our own 1941 Army Doctrine.

A second revealing point in the 1941 manual was the failure of the doctrine designers to assign armor the primary antitank role of the Army. They chose instead to give this responsibility to antitank guns organic to combat units and tank destroyers.¹⁷

The 1941, FM 100-5, Operations, represented the American Army's best guess of the manner in which war could be successfully conducted. While flawed to some degree, history has shown the basic concepts contained in this manual to be sound.

The basic drawback to the 1941 version of FM 100-5, Operations, was the inability of the doctrine writer to draw on the history of war to influence his doctrine. It is true that the basic machines, which dominated the battlefield during World War II were present during World War I, but the dynamic growth in their capabilities created novel concepts of employment. It can also be said that the concepts of "blitzkrieg" and the role of airpower existed prior to the war. These ideas were immature and required technological advances to reach their full maturity.

American doctrine writers had to further synthesize these concepts and shape them into an American way of war.

FM 100-5, Operations, 1944

The 1944 version of FM 100-5, Operations, had the benefit of three years of war in its construction yet differed very little from the 1941 edition. The majority of the manual is an almost verbatim copy of the 1941 version, though with some significant exceptions.

Although armor is still not an arm, the mechanized cavalry begins to absorb some of the traditional armor missions such as reconnaissance and security. The missions and capabilities of this type of Army organization indicate the increasing influence of mechanization on Army doctrine.¹⁸

The doctrine writers of the 1944 manual retained their recognition of the requirement for the infantry division to be augmented by other members of the combined arms team when facing a combined arms force.

The mission and capabilities of the horse cavalry remained the same, and the mission and responsibilities of the mechanized cavalry grew. Even with the growth in the

capability of both cavalry organizations, their missions remained essentially the same.

The description of the mission and capabilities of the armored division underwent significant change. The echelonment described in the 1941 version disappeared. The role of the armored-infantry is much more intrinsic in the success of the armor battalions of the division. The manual states "Seldom will tanks operate without infantry support." It further clarifies the missions of the armor-infantry team when describing armored division attack operations:¹⁹

The initial objective of the attack should be within the range of the base of fire.

Tanks lead the attack when terrain is favorable and hostile antitank defenses are weak. Infantry leads the attack over unsuitable terrain or against strong antitank defense. Tanks and infantry may attack together particularly when strong antitank defenses may be expected.

When tanks encounter unfavorable terrain, or strong antitank defenses, the infantry passes through the armor formations, and supported by the tanks, continues the attack. Similarly when favorable terrain and enemy antitank defense permit, tank units pass through the infantry and continue the attack.²⁰

The relationship of the armor-infantry team in the attack described in the preceeding three paragraphs is complimentary and mutually supporting. This relationship embodies experience gained on the battlefield. The doctrine of the employment of the armored division moved away from the arbitrary echelonment described in the 1941 doctrine and moved to a concept of mutual support. This is an excellent example of the evolution of doctrine based on successful battlefield experience.

In the 1944 version of FM 100-5, Operations, the mission and capabilities of tank destroyer battalions and non-divisional tank battalions replaced those of the 1941 GHQ tank battalions. Requirements for non-divisional tank battalions to perform the same functions as those in the armored division remained. Organic antitank weapons and the tank destroyer battalions retained the primary antitank mission for the Army.²¹

Army doctrine in 1944, as described in FM 100-5, Operations, reflected the new tactical awareness of American combat units learned during three years of war.

In recognition of the requirement for the mutual support and cooperation of armored and infantry formations, the Army began the development of specific armor-infantry doctrine. The basis of this doctrine is found in FM 17-36,

Infantry-Tank Team, published in 1944. The basic tenets of the doctrine were stated in this manner:

Success in battle can be assured only when there is complete cooperation of all arms. No one arm wins battles. Success is attained when each arm, weapon, and individual is employed to afford the maximum support to the remainder integrated so as to achieve the destruction of the enemy. Since tanks and infantry are linked so closely one to the other, it is necessary that the doctrine, powers, and limitations of both be understood by all.²²

The manual continues to describe in detail the basic armor-infantry relationships, missions, and capabilities which have been discussed previously. The manual was also supplemented by a separate manual which contained illustrated problems on the employment of tanks with infantry.

In addition to short studies on employment considerations for armor-infantry teams in tactical situations in a European context, FM 17-36, Infantry-Tank Team, examined the use of armor-infantry teams involved in jungle warfare. This manual also contains some practical guidance for modifications to tanks when acting as infantry transporters.²³

FM 100-5, Operations, 1949

The 1949 version of the Field Service, FM 100-5, Operations, shows a continuing evolution in the relationships between the various arms. The missions and capabilities of the infantry division states categorically that in order for infantry operations to be decisive, the infantry must be reinforced by the artillery, armored cavalry, and engineers. The 1949 version reorganized the arms and shows the replacement of the horse and mechanized cavalry with an arm called the "armored cavalry". The armored cavalry arm combined the missions and capabilities of the cavalry and the tank battalions of the armored division. The description of the missions and capabilities of this new arm also supported a combined arms concept:

It concentrates its fire power at the decisive area of action to lead, accompany, or support infantry in the penetration of the enemy's defenses, and destroy enemy penetrations.²⁴

Infantry division doctrine in the 1949 version states that the infantry division must be capable of absorbing different arms in order to accomplish their assigned mission. Mention was made of the heavy tank battalion, now organic to the infantry division, and the increased combat

sustainability that this organization gave to the infantry division. Also, for the first time in doctrinal literature at this level, provisions were made for the organization of "mobile task forces" made up of various arms. The mission of the mobile task force was to conduct operations in support of the attainment of division objectives. The armored cavalry also assumed the primary antitank role of the army. Independent tank battalions and tank destroyer battalions disappeared. Their functions and organizations became an organic part of the armored and infantry division.²⁵

The basic underlying principle of the mutual support of armor-infantry teams as a successful tactical ingredient, was also a basic premise of the 1949, FM 100-5, Operations.

When examining the three versions of the Field Service Regulations, FM 100-5, Operations, there is clear evidence of the evolution of the doctrinal employment of armor-infantry teams. Armor-infantry organizations began as distinct organizations with different missions in 1941, and evolved into the mutual supporting, complimentary organizations described in the 1944, and 1949 versions. In 1949, Army doctrine required the use of armor-infantry teams as a part of combined arms teams to achieve decisive action.

While the basic groundwork for the employment of armor-infantry teams had been established by 1949, significant misunderstandings of the relationship between armor and infantry had also become entrenched.

Doctrine failed to provide a clearly articulated view of armor-infantry relationships. This can be seen in the description of armor employment. The description of the mission and capabilities of infantry organizations in all three versions of the manual, makes improper use of the term "tanks". Tanks are listed in the same vein as machineguns, mortars, and antitank guns. They appear to be thought of as a single weapon, and the value of the combat effectiveness of armor platoons, companies, and battalions assigned as a unit to infantry companies, battalions, or regiments, seems to have been lost. In the 1941 version, the mission and capabilities of armor organizations also begins with the implication of tanks as a separate system, but evolves into the employment of armor-infantry teams by 1949. The direct result of these interpretations of doctrine were two different views on the employment of armor-infantry teams which was to have grave consequences during the Korean War.²⁸

FM 7-20, Infantry Battalion, 1944

The Field Service Regulations, FM 100-5, Operations, present a high level view of the requirements and structure of Army doctrine. Battalion and regimental commanders from 1946 to 1950 were much more concerned with the implementation of Army doctrine at their levels. Army doctrine for the employment of the infantry battalion is described in Field Manual 7-20, Infantry Battalion. This manual describes the role, missions, and capabilities of the infantry battalion. An examination of this manual, as it evolved from the 1944 version to the version utilized prior to the deployment of American combat troops in Korea, will trace the evolution of the armor-infantry team doctrine at the level at which it was to be implemented.

The 1944 version of FM 7-20 had the benefit of three years of combat in its development. The relationship between the infantry battalion and attached armor elements is clear:

Tanks assist the infantry by destroying or neutralizing hostile automatic weapons, reserves, counterattacking troops. . . . and by dominating objectives until the infantry's attacking echelon arrives and is prepared to defend the position.²⁷

The manual also addresses the role of the infantry battalion in support of tanks:

Infantry assists tanks by destroying or neutralizing antitank weapons and tank hunting teams, locating and removing mines and other tank obstacles, seizing ground from which tanks may attack, locating defiladed routes of advance for tanks, or taking over an objective which the tanks have captured or are dominating.²⁸

The manual offers more than just these generic appraisals of armor-infantry priorities.

The description of the infantry battalion in the attack specifically addresses the requirement for the unit leader to conduct a study of the terrain to take advantage of the different capabilities of the armor and infantry in the armor-infantry team. This study of the terrain may indicate several changes in formation to take advantage of the strengths of both the attached tanks and the infantry.²⁹

The doctrinal description of the infantry battalion in the defense also delineates the requirement for terrain appreciation when organizing tanks as a part of the defense. In the defense the tanks attached to the infantry battalion were the primary counterattack weapons of the battalion. This counterattack could be conducted by maneuver or by fire. Attached tanks did not have the primary defensive

role, nor did they have the responsibility to engage enemy tanks.³⁰

The 1944 manual also outlined the methods by which the armor-infantry teams of the battalion would operate when conducting both jungle and amphibious operations.³¹

FM 7-20, Infantry Battalion, 1950

Battalion commanders, in March of 1950, operated with a doctrine much the same as that of their predecessors in 1944. There were several changes to the doctrine which drew the armor-infantry team closer together. These changes indicate an increased awareness of the combat effectiveness of armor-infantry teams.

The first important change is indicated by the heading of paragraph 162 which reads, "Infantry-Tank Team". The substance of the paragraph is the same as that described for the offense in the 1944 manual with some new concepts. The manual addresses a "habitual" relationship between armor and infantry units. Formation of these "habitual" relationships was facilitated by the addition of a tank company to the structure of the infantry regiment and the addition of a heavy tank battalion to the infantry division. The term "tanks" disappeared and was replaced by the term "armor

platoon" or "company." The paragraph further specifies that infantry companies will receive "armor platoons" and infantry battalions "armor companies" as attachments to form a combined arms team.³²

The second important change surfaces in the doctrinal role of armor in the battalion defense. The primary purpose of the tank was to destroy enemy tanks during the battalion defense as well as participation in the infantry battalion local counterattacks. The manual states:

The number of tanks attached to each front-line battalion is determined by the terrain, the extent of front held, the enemy situation, and the availability of tank support for the regiment.³³

Employment of tanks in a piecemeal manner to satisfy the limitations of defensible terrain poses several logistical and command and control problems which could ultimately cause a fatal flaw in the battalion defense.

Differences in the doctrinal employment of armor elements attached to the infantry battalion can create confusion. The swirling contact of battle can render the line between offensive and defensive operations meaningless.

Summary

The impact of World War II on the evolution of armor-infantry doctrine can be traced in the Field Service Regulations, FM 100-5, Operations, and the Field Manual for the employment of the infantry battalion, FM 7-20, Infantry Battalion. The change in doctrine from 1941 through 1950 indicates a clear understanding of the increasing combat efficiency of the armor-infantry team. These changes were a direct result of the careful examination of harsh combat lessons learned during World War II.

CHAPTER 3

ARMY ORGANIZATION, TRAINING, AND EQUIPMENT, 1946-1950

If men make war in slavish observance of rules, they will fail . . . War is progressive, because all the instruments and elements of war are progressive.¹

Ulysses S. Grant

The leaders of the United States Army recognized the progressive nature of war and in 1946 embarked on an extensive campaign designed to change the way Americans waged war. These changes influenced the doctrine, organization, and equipment of the ground forces that helped win World War II. The vigor and commitment of these leaders to change the military based on the lessons of war was not characteristic of a victor. The result of this objective analysis of the doctrine, organization, and equipment during World War II, was progress.

Army doctrine from 1946 to 1949 retained the same basic ingredients as its World War II predecessor. There was little need for change until the detonation by the Soviet Union of their own atomic device.

Most leaders felt that while Army doctrine was basically sound, the organizations and equipment used to

implement that doctrine had minor flaws. These same leaders felt that these organizational and equipment flaws could be overcome with minor changes. Progress in the areas of organization and equipment manifested itself in the form of War Department and Theater boards. These boards were convened in 1946 to gather information from combat commanders to recommend changes to the organizations and equipment of the World War II Army.

Organization

The General Board of the United States Forces in the European Theater produced a series of studies which resulted in changes to all Army organizations.

Study Number 17 of the General Board, made recommendations for the organization of Army Post-War divisions based on a consensus of combat leaders' experience and an examination of future Army missions. While a consensus of military opinion based on combat experience was relatively easy to achieve, it was only applicable to one theater of operations. This concern was noted as a study limitation:²

The study concerns itself solely with combat experiences in and lessons derived from the European Theater of

Operations. It attempts no analysis of warfare in the Pacific Theater, Africa, or Italy, nor of the most suitable type of division for employment in these areas. Consequently, while it enumerates the possible global missions of the post war Army, it premises its recommended organization on the lessons of one theater only.³

In addition to recognizing this limitation, the study also seemed to sense the tentative nature of American foreign policy as the world's first superpower. The result of this lack of direction was a second major limitation:

The General Board has no authoritative statement of the pattern of the foreign and military policy of the United States and, consequently, the missions of the Army of the future have been based on intelligent estimates. It is entirely conceivable, therefore, that the ultimate interests of the United States may require the organization and maintenance of tactical units possessing characteristics not contemplated in this report.⁴

With the major study limitations established, the study on Post-War Army Divisions then examined the future missions of the United States Army. The major missions of the Army at this time have been discussed in the chapter on doctrine. In addition to those already discussed, an Army mission to provide "assistance to the Security Council of the United Nations Organization" surfaces. The study's

description of the structure of the force designed to accomplish this mission is prophetic:

Assistance to the United Nations Organization will probably be provided by elements of the strategic reserve. If, on the other hand, policy dictates the creation of a separate "police force," its responsibilities will require that it be a smaller prototype of the strategic reserve.⁵

It is ironic that in the face of the limitations and missions that made up the Army's most "intelligent guess," that the study determined that the infantry and armored division of World War II, with some minor organizational changes, would adequately serve the Post-War Army.

In considering the lessons learned during the employment of the infantry division in Europe, the study emphasized that the "uniformly better performance of infantry when closely supported by tanks is probably the single biggest tactical lesson of the European campaign." The study continues to emphasize the value of armor-infantry teamwork saying:

The presence of supporting Armor was demanded by the infantry even when it was not essential to the establishment of fire superiority, to the countering of enemy tank threat or to the engagement of enemy assault guns.⁶

Based on this combat experience and future Army missions, the study recommended that the Army adopt the specific organizational recommendations of General Board Study Number 15.

General Board Study Number 15 produced recommendations for changes to the organization, equipment, and tactical employment of the infantry division.

Two recommendations of this study had significant effects on the armor-infantry teams within the infantry divisions.

The first major recommended change was the deletion of the regimental anti-tank company. The logic behind this decision was best summarized by Major General Kibler at a conference on the infantry division given at the Grand Hotel at Bad Neuheim on 20 November, 1945, when he said:

It seems that the majority do not want a tank unit organic in the infantry regiment to replace the anti-tank company. All seem to agree that the best anti-tank weapon today is the medium tank. It therefore seems to be the concensus of this meeting that the anti-tank company should be eliminated from each infantry regiment and three tank companies should be added to the tank regiment at division level.⁷

The sentiment displayed in this conference was reflected in the final study report which recommended the

elimination of the anti-tank company. The elimination of the anti-tank company was predicated on the establishment of a tank regiment organic to the division.⁸

The second significant impact on armor-infantry teams was a recommendation to make a tank regiment of three tank battalions organic to the infantry division. This recommendation was based on lessons learned during combat in Europe which have been previously addressed. This recommendation was not without its opponents. An exchange between General Officers at the same Bad Neuheim conference indicates the opposing positions:

General Robertson: I would prefer three battalions in the division and take both the anti-tank and cannon companies out of the regiments. This would provide more sustained power. You have the same number of tanks, but under centralized control. My organization would be three tank battalions--no tanks in the regiment--and feed them up as needed.

General McBride: Are we planning an armored or infantry division?

General Patton: Apropos of General McBride's statement, are we building an armored or infantry division? In my opinion there is very little difference between them except one very fundamental one. In an infantry division the purpose of the supporting weapons--primarily tanks--is to get the infantry forward. In an armored division, the purpose of the infantry is to break the tanks loose.⁹

The Armor School also opposed the inclusion of an organic tank regiment in the infantry division and in the "Armor Conference Conclusions" for the Armor Conference of June 1947, supported the allocation of an organic tank battalion to each infantry division. The Armor Conference approved the recommendation without a dissenting vote.¹⁰

In 1947, changes to the infantry division organization saw the addition of organic armor units. These additions were not those recommended by the General Board, but recognized the need for organic armor units as demonstrated by actions in World War II. The 1947 infantry division was organized with a medium tank company organic to each infantry regiment and a medium tank battalion of three companies under the control of the division. The regimental tank companies gave the regiments both a mobile anti-tank, and a limited offensive capability.¹¹

The General Board study on Post-War divisions also recommended changes to the armored division. Combat casualty rates for the armored division, as described by General George S. Patton at the Bad Neuheim conference, were 65% for the infantry, 4.7% for the artillery, and 25% for the armor. The result of the high infantry casualty rate was the use of engineers and attached conventional infantry units to accomplish armored-infantry missions. These combat

lessons resulted in a change in the amount of armored-infantry organic to the armored division. In 1946, the amount of infantry in the armored division was increased from three battalions of three companies to four battalions of four companies.¹²

In addition to changes in the infantry and armored divisions, two additional topics were addressed. These topics show remarkable foresight and an attempt to change organizational structures. The purpose of these changes was to synchronize organizational structures with the changes in doctrine.

The first topic was the combination of the infantry and armored division into what was termed an "all-ground purpose" division. This concept was the result of responses from general officers and colonels on the organization of post-war divisions conducted in October of 1945. One stated advantage of the combined division was the simplicity and standardization of training which could be achieved "in one set pattern." The ability to develop and procure equipment would also be simplified. A second advantage would be the ability of this type of division to assume a broader range of missions. The division could not only defend in rough terrain with its infantry assets, but it could also be used in the penetration and pursuit of enemy forces. The

adoption of combined division would also result in a more equitable distribution of the combat burden. The disadvantages of this type of force killed the concept. It was ponderous, mechanized, and expensive.¹³

The second topic was a discussion on the formalization of the task force as a new basic unit. The proposal was again based on the experiences of combat leaders in World War II, who deployed small combined arms teams to accomplish vital unit missions. The advantages of such an organization were its flexibility and training efficiency. The disadvantages were the requirement for staff improvisation to control these task forces, and the tendency of these task forces to become fixed organizations. No recommendation on this new basic unit concept was made by the Board. The Board stated that there was insufficient evidence to make the determination that it was or was not a viable substitution for the basic unit structure then in use. The Board further recommended that the concept merited further detailed consideration.¹⁴

The combined work of the General Board, the Infantry Conference, and the Armor Conference of 1946, led to changes in the basic infantry and armored division structures. These changes were the direct result of the lessons learned in combat in the European Theater during World War II. The

single greatest lesson of the war in Europe was the increase in combat efficiency, which resulted from the mutual support of the armor-infantry team. The infantry and armored division organizations of 1947 reflected these insights. The changes resulted in the creation of organic tank elements in the infantry division and the increase in armored-infantry strength in the armored division.

The implementation of the first major changes in the armored and infantry division organizations since 1941 took place in 1947. The changes reflected a European way of war. There was no equivalent General Board for the Far East, in spite of the fact that the preponderance of American overseas ground forces were stationed in the Far East. In 1950, the strength of the Far East Command was 108,550 men. The European Occupation Force consisted of 80,018 men.¹⁵

The implementation of the 1947 organizational changes were half-hearted and overcome by external factors such as demobilization and the military budget. The impact on the infantry division reorganization of MacArthur's Far East Command was especially significant.

The 1947 occupation forces of Japan consisted of the 7th, 24th, and 25th Infantry Divisions and the 1st Cavalry Division. The 29th Regimental Combat Team stationed at Okinawa, was also under MacArthur's control. The 1st

Cavalry Division, although it retained the Cavalry honorific, was also an infantry division. The wartime strength of these divisions was 17,700 men. In June of 1950 these divisions were manned at only two thirds of their authorized strength. These manpower deficiencies had reduced the number of battalions in the infantry regiments from three to two. Artillery battalions maintained two instead of three firing batteries. The divisional tank battalions were deactivated because they were too heavy for Japanese bridges and roads. The tank companies organic to the infantry regiments were also missing. The sole armor asset in each infantry division was a light tank company placed under divisional control. The M24 light tanks in this company were primarily used for ceremonial purposes.¹⁶

A requirement to fill these organizations to their authorized combat strengths would require 11 infantry battalions, 11 artillery batteries, 4 medium tank battalions and 12 light tank companies.¹⁷

In spite of the work of the General Board and the Armor and Infantry Conferences, the infantry and armored divisions of the United States Army of 1947 were hollow. These same organizations of the Far East Command would be committed to combat in Korea in June of 1950.

Training

In analyzing training and its effect on armor-infantry teamwork in Korea, a focused examination must be undertaken. Units stationed in Europe and elsewhere, which were not committed to combat in Korea, cannot provide insight on the ability of Army leaders to learn from history and apply those lessons to doctrine.

Basic trainees in the Army beginning in 1948, had a much easier time than their World War II counterparts. Owing to the shortage of funds, Basic Training had been cut to a period of eight weeks. The training period was increased to 14 weeks in March of 1949, but included no specialty or branch training. One soldier who reported to the 3rd Infantry Division at Fort Benning, Georgia, in 1949, described his assignment to a divisional unit in this manner:¹⁸

One day while we were going through inprocessing, we were taken to a big field where a bunch of equipment was set up. We sat there in the bleachers and listened to some Sergeants talk about what their units did. There were tanks, artillery pieces, and trucks all out there on display. After the speeches we wandered around the displays and talked to the Sergeants at little tables. I was going to be a truck driver but, the tanks really looked good. So I gave the Sergeant at that table my name. The

next day I was assigned to the 73rd
Heavy Tank Battalion.¹⁸

The soldier who joined the Army was also not combat-minded. Recruiters failed to stress the obligations of a soldiers and appealed to their sense of fun and adventure with enlistment pitches like, "Join the Army and see the World," or "Have Fun in Japan."

Training in the Eighth Army stationed in Japan in the years 1946 through 1949 is an enigma. The general concensus of many historians is that the training conducted was poor. These opinions are based on the combat performance of Eighth Army units upon their commitment to combat in Korea in 1950.

There were many reasons for poor training. These included the rapid turnover of soldiers assigned to units, lack of equipment, and the lack of training funds and facilities. In addition to these problems there were also numerous training distractors. These distractors include the execution of occupation duties, lack of a sense of mission, and the sincere belief by many soldiers that they would not be involved in combat.²⁰

The personnel turnover rate of the Eighth Army during the demobilization crippled unit training in the Eighth Army. The Eighth Army lost 43% of its soldiers annually. A building block approach to training was doomed to failure.

The rotation of key personnel made units "brand new" in as little as six months.²¹

The soldiers deployed to Japan were a special problem. The powerful dollar made even enlisted soldiers rich. This led to privates with personal servants and other distractions. Train rides from Tokyo, north on the "Yankee Special," or south on the "Dixie Limited" were free. Drinks at ten cents a piece, created a standing joke that you couldn't afford to stay sober. The Black Market was lucrative. Discipline was lax. Japanese occupation duty was a sought after billet. The soldiers stationed in Japan were of low caliber and motivation.²²

Soldiers stationed in Japan from 1945 to the spring of 1949 were administrators, not combat soldiers. They replaced the imperial government at all levels and acted as a constabulary. The objectives of the occupation force were the prevention of a resurgence of militarism and the restoration of Japan's economy.²³

MacArthur further expanded the goals of the occupation to include the writing of a constitution for the Japanese people. In order to provide strong support for this new constitution, MacArthur also desired to instill the populace with an understanding of democratic ideals.²⁴

In the spring of 1949, MacArthur relaxed the stern nature of the occupation. Many administrative duties were transferred to the Japanese, and at the same time the Eighth Army received a combat mission.

Lieutenant General Walton Walker, Commander of the Eighth Army, developed defensive plans based on the "Threat" of a Soviet invasion of Hokkaido. Walker's defense called for rapid deployment to the beachheads to repulse the enemy's attacks. Walker also devised plans to counter his false perception of a massive internal threat from communist sympathizers and collaborators.²⁵

In Japan, training areas large enough to deploy a regimental combat team did not exist. All arable land produced food to feed the population. The few rifle and artillery ranges were antiquated and great distances from the troop locations.²⁶

In the face of these problems, Lieutenant General Walker began in 1949, a training program to create an effective fighting force. Units were to undergo collective training to achieve proficiency according to the following schedule:

<u>Date</u>	<u>Level</u>
December 1949,	Company
May 1950,	Battalion
July 1950,	Regiment
December 1950,	Division

In addition to the collective training, specific units were to receive specialized training in airborne and amphibious operations. Units would also receive Joint training with the Air Force in the conduct of close air support. Unit readiness inspections were conducted with appalling results. In spite of the new emphasis on training and the attempts by the command to improve the combat readiness of the Eighth Army, the command was not combat ready when the North Koreans invaded the South in June.²⁷

The poor performance of American combat troops in the months of July through September is common knowledge. The specific failures of individuals and units vary with the leadership of the unit and the tactical situation. In order to provide a systematic study of the actions in Korea, the Office of the Chief Army Field Forces (OCAFF) dispatched observer teams to Korea. These teams reported significant trends to the Commander of the Army Field Forces for dissemination to the Army major commands. One of the major topics of study by the team was training deficiencies.

Colonel Eckert, the commander of the first observer team to Far East Command, arrived in Korea on the 24th of July. Taejon had fallen, and General Dean was missing and assumed dead. After several days observing action and gathering information, Colonel Eckert returned to Japan and

completed his report. The report was submitted on 16 August and is very revealing. They reported the following deficiencies in the soldiers and the training system:

1. Soldiers fail to respond to orders.

While the OCAFF team does not specify why they fail to respond, other sources complete the picture. The soldiers were physically exhausted. They were physically unprepared for the rigors of combat. They did not trust their leaders. They did not trust their equipment. Units lacked cohesion. These are characteristics of units which have not undergone realistic combat training and are led by poor leaders.

2. Soldiers are roadbound.
3. Soldiers don't know how to implace mines.
4. Soldiers don't know how to conduct night operations.
5. Unit training contained subjects irrelevant to combat such as Command Information and Achievements and Traditions of the United States Army.
6. Units have conducted no Air-Ground training.
7. Infantry units are deficient in scouting, patrolling, outposting, selection and preparation of firing

positions, small arms fire control, and combined arms training.²⁸

The majority of the deficiencies enumerated above are basic infantry skills. The failure of units to properly perform them is indicative of the lack of training of deployed units.

While the infantry bore the brunt of the initial action, the tank battalions arriving in the month of August had their own peculiar problems. The story of a soldier in Company A, 73rd Tank Battalion is typical of armored soldiers and machines committed in the first months of the Korean War.

The 73rd Tank Battalion was the organic heavy tank battalion of the 3rd Infantry Division stationed at Fort Benning, Georgia. Due to cost reductions and the battalion mission, Company A was equipped with M24 Chaffee light tanks instead of the M26 Pershing. The purpose of the battalion was to perform demonstrations for the Infantry School. Unit training consisted of live fire performances for the Infantry Officer Advanced course. This live fire exercise demonstrated the value of tank-infantry combined arms operations. While the participating infantry regiments rotated, companies from the tank battalion always participated in the demonstration. Infantry regimental tank

companies were not capable of performing the demonstration mission indicating their low level of armor-infantry training.

Enroute to Korea, the battalion was ordered to depart for Oakland, California, by 15 July. Company A was conducting demonstrations for the reserves at Fort McClellan, Alabama. Upon the receipt of deployment orders, the company road marched to Fort Benning and began to prepare their tanks for overseas shipment. Company A rail loaded their tanks at Fort Benning and never saw them again. In California they received men and equipment from the 15th and 30th Regimental Tank Companies. The battalion arrived in Korea 8 August 1950. A Company arrived without tanks. They waited in Pusan for approximately seven days for the arrival of M26 Pershing tanks. The tanks had been used as a part of a South American amphibious exercise and were in terrible condition. Drivers learned to drive their tanks in the parking lots of Pusan. The tankers took on their combat load of World War II ammunition and got as many of the tanks as they could keep running, 50 miles north to Kyongju. On 17 August they were committed in the defense of the Pusan perimeter in support of the 23rd Regimental Combat Team of the 2nd Infantry Division. They fired their first rounds in combat by lanyard to test the tanks' recoil system. There

was no combat zero of the tank maingun, weapons were not test fired, no movement or operations orders disseminated.²⁹

The commander of the 70th Tank Battalion, Lieutenant Colonel Bill Rodgers tells much the same story:

Meanwhile they were sending me tankers from all over; nobody knew anybody else. But we left by train Friday morning as ordered. About one week later we sailed from California on a ship with two other tank battalions. [the 6th and 73rd], whose men had the same kind of hectic stories to tell. We landed at Pusan and went straight into combat, a complete bunch of strangers with no training.³⁰

The soldiers of the United States employed in combat in Korea from July through September of 1950, were woefully unprepared. The individual soldiers lacked the skills to keep them alive in combat. Combined arms training of Eighth Army units was also inadequate. The training of infantry units with organic regimental and divisional armor units did not occur. There were no armor-infantry teams. Unit leaders were inept, and after the initial engagements lacked credibility. This unpreparedness can be attributed in large part to factors external to the Army itself; however, the failure of small unit leaders and individual soldiers is due to lack of realistic combat training and poor leadership. Joe Collins wrote later that by June, 1950, "few units of the Eighth Army had reached a satisfactory level of

battalion training." In addition to this, the wide dispersion of Eighth Army units, excessive personnel turnover, did not support the development of cohesion, esprit, or unit pride, at even the regimental level.³¹

Equipment

On 8 October, 1946, the War Department appointed a board "... for the purpose of reviewing types of equipment required for the Army Ground Forces in the Post-War Army." The War Department Equipment Board, unlike the General Board of the European Theater, received input from major Army Commands in both the Far East and the Mediterranean Theaters in considering the development of future equipment requirements. General Joseph Stilwell headed this board and on 19 January, 1946, completed his mission. The recommendations of the review board had far reaching effects on all the Armed Services.³²

The recommendations of the Review Board, which had the most significant impact on the armor-infantry team, were the identification of a requirement for an armored personnel carrier, and a radio which would allow the infantry commander to communicate with attached armor and aircraft flying close air support missions.

The War Department Equipment Report stated that a requirement existed for a full tracked armored personnel carrier to transport personnel or vital cargo in areas under artillery or small arms fire. Two different personnel carriers were recommended for development by the report. One personnel carrier with a twelve man capacity, the second with a 26 man capacity. These carriers were to have parts interchangeable with other mechanized vehicles in the division. The vehicle was also to serve as a mortar carrier and a command post vehicle. The report emphasizes the requirement for an armored top to provide overhead protection to the crew. The report also asked for an extensive investigation into the possibility of the development of a one-man carrier where the soldier would be transported lying down. The report also states that the movement of infantry soldiers in these personnel carriers as far forward as possible should become routine. These comments are found in recommendations for equipment for both the armored and infantry divisions. The Report's requirement for the personnel carrier was not seen as just a replacement for the half-track of the World War II armored-infantry, but also as a multi-purpose means of transportation in the infantry division.³³

The Armor Conference of 1946 endorsed this position and added an additional recommendation that the personnel carrier allow the occupants to shoot their weapons out of the vehicle when fighting mounted.³⁴

In Section I of the War Department Equipment Report, communications deficiencies were addressed. The Report described the need for an integrated radio system which would allow the infantry to communicate with the armor and air force. In Section II of the Report which specified recommendations for the improvement of infantry equipment, the following system was described:³⁵

An integrated
infantry-tank-artillery-air voice radio,
and a portable radio to provide
communications between dismounted men
and individual tanks.³⁶

The recommendations for the armored divisions were similar. The Armor Conference of 1946 submitted a much more detailed recommendation. In that recommendation, specifications for the range, channels, modulation, remote control, weight, installation, tuning, and security were addressed for both a vehicular and man-packed radio. In addition to these recommendations the Conference stated that the present means of communicating between armor and infantry radios had to be considered an inadequate interim

measure until new equipment was available. The Armor Conference also recommended that future radios also include the capability to communicate with the Air Force Tactical Air Direction Center and supporting aircraft in flight. The stated intent was to allow the armor platoon leaders or tank commanders to act as forward air controllers.³⁷

In spite of the foresight of the military leaders this equipment was not forthcoming. The economic reality of tight budgets limited expenditures to clothing, food, and medical supplies. These items were easily stored and less susceptible to the effects of technological change.³⁸

Alexander Bevin, in his book Korea: The First War We Lost, states the greatest weaknesses of American forces deployed to Korea could be found in their equipment and ammunition. The equipment and ammunition of the Eighth Army began to show glaring weaknesses beginning with the engagement of Task Force Smith, north of Osan on the 5th of July 1950. Lieutenant Ollie D. Connor fired 22 rockets from a 2.36 inch bazooka, at a range of fifteen yards into the rear of T-34 tanks as they passed his position. The ammunition in most cases failed to detonate or could not penetrate the tanks armor. Their effect was negligible. The 105 mm howitzer which was acting as an anti-tank gun ceased to be effective when it had completed firing a total

of six HEAT rounds. That ammunition represented the total stock of anti-tank ammunition available in Japan. This performance, although shocking to the general public, should have been no surprise to the leaders who sent Task Force Smith to accomplish its mission.³⁹

MacArthur had complained of the state of equipment in his command, but received no relief from military leaders mesmerized by budget battles and international communist ideology. In an effort to improve the status of his equipment, MacArthur initiated "Operation Roll-Up." In this operation MacArthur dispatched teams to the islands in the Pacific to reclaim rusty, abandoned equipment leftover from World War II.⁴⁰

This effort served two purposes. First, it provided MacArthur with a source of equipment for his combat units, and second it provided a means to stimulate the Japanese economy by providing the Japanese with work refurbishing the old equipment. "Operation Roll-Up" was only a stop-gap measure that was insufficient to prevent the initial poor performance of American equipment in Korea. The signs of these equipment problems were evident to Walker's Eighth Army inspection teams headed by his G-3, William H. Bartlett in the spring of 1950. In one inspected unit, two thirds of

the rifles were broken. In another they did not find a single vehicle capable of sustained performance.⁴¹

Upon the commitment of the 3rd Battalion 35th Infantry to Korea, only the SCR-300 radio in the battalion command net was operable. The 24th Infantry Regiment reported only 60% of their authorized radios on hand. Of those on hand, four-fifths were inoperable. Batteries for radios were old and unreliable causing communications failures at critical times in combat. The 1st Battalion 35th Infantry had only one recoilless rifle and no spare barrels for their machineguns. Many of the 60 mm mortars were inoperable because the bipods and tubes were worn out. Fifty to 60% of the ammunition for these mortars turned out to be duds. The armor units also experienced numerous equipment problems. Typical is the description of a divisional G-3 when he said:⁴²

The division had back orders two years old for recoil oil, so the 75 mm guns had never been fired. When the guns were fired in Korea, it was done by lanyard and promptly blew off the turrets.⁴³

The Army met its critical need for equipment in the early days of the Korean War by drawing on World War II stocks. This equipment, often refurbished in Japan, kept

the Americans and the ROKs in the War until the United States economy could be mobilized.

Summary

The lessons of World War II caused the Table of Organization and Equipment of both the infantry and armored division to change. These changes were the result of an in-depth study of combat veterans into successful operations of the war. The organizational changes resulted in a better balance between the armor and infantry soldiers assigned to both types of divisions. The new balance recognized the increased combat efficiency of the armor-infantry team.

The actual deployment of these units to the field was not accomplished primarily because of the overpowering effects of the atomic bomb, which acted as the cornerstone of national security. Army demobilization and drastic cuts in the Army Defense Budget also played a significant role in the failure to implement force structure changes.

The state of the equipment of the Eighth Army upon deployment to Korea was criminal. The failure of equipment to function contributed to unnecessary loss of life and prevented the effective use of the combined arms team.

Realistic and demanding training was not conducted in the Eighth Army in sufficient time to prevent poor combat performance in Korea. The inability of infantry elements to train with armor units resulted in mistrust and decreased combat efficiency.

CHAPTER 4

ACTIONS ON CONTACT

It is only common sense to say that we cannot hope to build up a true doctrine of war except from true lessons, and the lessons cannot be true unless based on true facts, and the facts cannot be true unless we probe for them in a purely scientific spirit.¹

Liddell Hart, The Ghost of Napoleon

First Blood

Engineers blew the bridges in front of Chonui on 9 July, four days after Task Force Smith had been overrun. Colonel Stephens, the Commander of the 21st Infantry Regiment of the 24th Infantry Division registered his 81 mm and 4.2 in. mortars and prepared for his defense southeast of the small village. Around noon he received reports of enemy tanks moving south on the main road. In mid afternoon, the advance guard of enemy forces probed the battalion's forward positions.²

Coordinated friendly air strikes and artillery fire blunted the enemy advance and left five of eleven enemy tanks burning. At dusk the enemy tanks were still burning

while the enemy planned the next attack. The regimental commander and the 1st Battalion 21st Infantry nervously prepared their night defenses against the inevitable attack.³

Colonel Stephen's mission was to delay the approaching enemy along one of the two major roads south from Seoul. This delay would allow the division sufficient time to prepare defenses along the Kum river. He was told by General Dean that he could expect no help from the remainder of the division for four days. In order to accomplish this mission, he occupied a blocking position south of Chonui with the remaining companies of his 1st Battalion (the other companies had been assigned to Task Force Smith) and filler personnel, all under the command of Captain Charles R. Alkire. Approximately 500 meters south of 1st Battalion's position he deployed the 3rd Battalion 21st Infantry in a subsequent blocking position. In addition to the infantry and supporting artillery, the tanks of Company A, 78th Tank Battalion equipped with M24 light tanks, were deployed along the primary armor avenue of approach into the regimental positions.⁴

Elements of NKPA 3rd and 4th Divisions supported by the 107th Armored Brigade attacked early on the morning of 10 July. Taking advantage of darkness and the early morning

fog, North Korean troops infiltrated the 1st Battalion's positions. By 0800, the fog had cleared revealing the approach of enemy troops to the front of the regiment's position. At the same time, tank and small arms fire could be heard to the rear and flanks of the 1st Battalion. The Heavy Mortar Platoon was overrun by the infiltrating enemy, leaving the battalion without organic fire support. Wire communication with the supporting artillery battalion was cut. By 1205, the regimental commander could not keep the ad hoc battalion under Captain Alkire in position. 1st Battalion fled through the rice patties, strafed by friendly aircraft and shelled by supporting artillery. Retreat ended when they arrived at the 3rd Battalion positions 500 meters to the southeast.⁵

Tanks supporting the regiment performed poorly. In the confusing battle they failed to stop the attacking enemy tanks. Lack of control precluded them from covering the retreat of the infantry. Tanks, immune to small arms and mortar fire, could have covered the withdrawal of the 1st Battalion. The ability of the T34/85's to penetrate the anti-tank positions of the 1st Battalion revealed the ineffectiveness of the M24 Chaffee, light tank as an anti-tank weapon.

Colonel Stephens ordered the 3rd Battalion to regain the positions lost by the 1st Battalion. The commander of 3rd Battalion, Lieutenant Colonel Pryor, was unable to carry out the attack and was relieved as a non-battle casualty. His executive officer, Major Jensen, assumed command. Major Jensen weighted his counterattack with four M24 Chaffee light tanks. The counterattack was successful and the 3rd Battalion regained the ridge south of Chonui around dusk. The tank platoon supporting the counterattack performed better than the company had earlier in the day.⁶

Although the counterattack was successful, Colonel Stephen's armor-infantry team performed poorly. The inability of the M24 Chaffee to act as a viable anti-tank weapon gave the enemy T34/85's the edge in combat. Outgunned, the tanks supporting the infantry were ineffective and contributed to the growing fear that the North Korean assaults could not be stopped. The M26 Pershing and the M4A3 Sherman tanks, superior in firepower to the M24 Chaffee, were immediately required to build a viable armor-infantry team. Unfortunately, the leaders of the Far East Command had decided in the years following World War II, that such weapons were not needed in the Eighth Army.

Four days after the North Korean Peoples Army (NKPA) crossed the 38th parallel, three M26 Pershing tanks were discovered in the Ordnance Depot in Tokyo. The poor condition of the tanks required extensive repair which began immediately. After almost a complete rebuild, the tanks were sent to Korea under the command of Lieutenant Samuel Fowler. Lieutenant Fowler and his fourteen tankers were drawn from A Company, 77th Tank Battalion. Upon arrival, the tank crews required immediate and intensive training to operate the M26 Pershing. Originally trained on M24 Chaffee tanks in Japan, the crew fired the 90 mm main gun for the first time in the vicinity of Taegu. During this training the makeshift nature of the repairs made themselves known. Of special note were the engine's fanbelts. The original fanbelts had rotted. No replacement belts were available and fanbelts were ordered from supply bases in the United States. The tanks were deployed to Korea with makeshift belts which often slipped causing the tanks to overheat.⁷

The deteriorating situation in Korea did not wait for the arrival of the proper fanbelts. On 31 July, while defending south of Chinju, the medium tanks became engaged with elements of the NKPA 6th division. Lieutenant Fowler's tanks engaged the enemy with machine gun fire and withdrew. The tanks were stopped by a blown bridge as they

headed east. Two tanks became mired as they attempted to bypass the bridge. The crews began to disable their tanks with hand grenades, but came under fire and escaped on the remaining M26. Shortly afterward the last M26 overheated, stalled and refused to restart. Pursuing North Koreans caught up with the tank crews and a fire fight ensued. Lieutenant Fowler was killed and the crews scattered. The only three medium tanks in Korea had been lost.⁸

The first engagements of armor-infantry teams were haphazard, dismal affairs which showed the poor state of maintenance and training in the Eighth Army. In spite of these initial failures, Commanders recognized the potential combat power of the armor-infantry team. As the war progressed, organization for combat placed an increased emphasis on the creation of armor-infantry teams.

Cases

First impressions are vivid and clear for a soldier going to combat. Veterans of Korea remember the summer of 1950 for the heat, the confusion, and the terrain. In Korea, the terrain consists of a series of long narrow valleys surrounded by domineering steep hills. This terrain

led military leaders to believe that Korea was not suited for armor operations. The rapid advance of the NKPA's, spearhead, the 107th Armored Brigade, dispelled these beliefs. A special report on the problems of the Korean War succinctly summarized this new enlightened view:⁹

The mountainous terrain, lack of good road net, poor conditions of the roads, demolished bridges and lack of bridges capable of supporting tanks, steep high paddy dikes, and rice patties had little effect on tank warfare. The only change the terrain imposed on the employment of armor was to lower the number of tanks that could be deployed in any given area at one time.¹⁰

Terrain had a profound impact on the nature of the war. It reduced battles to a series of vicious independent engagements. A battalion in the defense could lose an entire company to an enemy assault without sustaining a single loss in the remaining companies of the battalion. Mountains muffled the sounds of battle making the struggles of flank elements indistinct and far away. The physical and psychological isolation of the soldiers fed their fears and broke down unit cohesion.

Battle in Korea was a series of small unit actions rarely larger than a regiment. For this reason the study of several small unit actions, occurring during the first 18

months of the war, provide a basis for an examination of the armor-infantry team in Korea.

The armor-infantry teams of Korea must also be examined within the framework of the period's doctrine. Intrinsic to this doctrine was the development of team cohesion through team training and combat experience. General Board and Conference Reports following World War II emphasized the increased effectiveness of units which operated together in a habitual manner. Further, the organizational structures of the infantry regiment and infantry division were changed to facilitate this association. Armor-infantry doctrine further emphasized the requirement for team leaders to understand the capabilities and limitations of each arm.

Contact

In November, 1951, Communist Chinese soldiers clad in mustard colored, quilted cotton uniforms, descended from the hills of northern Korea. American and Republic of Korea (ROK) troops were totally unprepared for the assault. Strung out in the hills of North Korea, isolated units were finishing up their Thanksgiving dinner and talking about returning home in time for Christmas. The North Koreans had

been beaten and the columns of the Eighth Army had driven northward to the Yalu River, in the face of weak resistance. Units failed to even attempt digging in and open fires were used to fight off the penetrating cold of the late mountain autumn. Division level intelligence reported that the Communist Chinese Forces (CCF) in the area would conduct a "screening action" as they retreated to the Yalu.¹¹

The "screening forces" came out of the night blowing bugles and horns, shaking rattles, and shooting flares into the sky. The ferocious attack was unexpected and panic infected the American and ROK forces. American high level commanders were slow to realize that the CCF had sufficient strength to launch a general offensive that could threaten the Eighth Army. As a result of this slow realization isolated units were fixed in position, surrounded and overrun.

In spite of the initial CCF attacks, X Corps, under Lieutenant General Almond, continued to move its forces north on western flank of the Eighth Army. The loose control and dispersion of his forces made him the target of both the next phase of the CCF offensive and an investigation by the new Eighth Army Commander, Matthew Ridgway.¹²

Allied with near zero temperatures and unit isolation, the CCF smashed X Corps. Reeling from the shock of the assault, X Corps left the 23rd Infantry Regiment of the 2nd Infantry Division to hold what Ridgway determined to be the vital left shoulder of the CCF penetration at Chipyong-ni. Colonel Freeman, Commander of the 23rd Infantry, monitored the ominous radio reports and asked that his unit be allowed to withdraw to the south. His request was denied. Anticipating a desperate defense, Colonel Freeman continued to improve his positions and stockpiled ammunition for the battle ahead.

On the night of 13 February the first assaults on the 23d Infantry began. The CCF attack was repulsed by the prepared positions and firepower. Daylight revealed that the enemy had suffered enormous casualties and that a coherent regimental defense remained. Daylight also confirmed that the regiment was cut off, in the midst of five enemy assault divisions, and had over 200 friendly casualties who could not be evacuated.¹³

There were no reserves in X Corps available to relieve the 23rd Infantry. General Ridgway directed the IX Corps Commander, Major General Moore, to effect the relief. Moore immediately directed the IX Corps reserve, the 5th Cavalry, and the Commonwealth Brigade to breakthrough to the

surrounded 23rd Infantry. The Commonwealth Brigade immediately encountered stiff resistance and was unable to push through the CCF defense. IX Corps then shifted its focus to the 5th Cavalry, whose attack became the Corps main effort.¹⁴

This 5th Cavalry action violated several basic tenets of armor-infantry doctrine. Units were thrown together in a haphazard manner. Due to the regimental commander's decision, the tank company which had been habitually associated with the regiment, did not receive the mission to lead the breakthrough force. Command and control measures, although coordinated prior to enemy contact, proved inflexible and ineffective. Key leaders also failed to understand the capabilities of the infantry element of the breakthrough force.

Task Force Cromber

At 1500, 14 February, Colonel Marcel Cromber received the mission to relieve the embattled 23rd Infantry at Chipyeong-ni. Although simple in concept, the relief proved very difficult to execute. The first difficulty to overcome was the assembly of the widespread units at Yaju, south of the Han river. In addition to the three infantry battalions

of the regiment, the regiment was augmented by 23 tanks from two separate tank companies.

Lieutenant Colonel John Growden's 6th Tank Battalion sent thirteen tanks from Company D. These tanks were M48 Pattons and were not organic to the 1st Cavalry Division. Given an order to begin their move to join the 5th Cavalry within 30 minutes, Company D was on the road in 28 minutes to effect the linkup.

The remaining ten tanks were M4A3s, which belonged to Lieutenant Colonel Henry Zeien's, A Company of the 70th Tank Battalion.

In addition to the tanks, the regiment was supported by the 61st Field Artillery, and a battalion of 155 mm self-propelled guns.¹⁵

At 1700, while the force was being assembled at Yodju, Colonel Crombez recieved the order to execute his breakthrough to the 23rd Infantry. In the darkness, all units but the field artillery battalions crossed over improvised bridges to begin their attack towards Chipyong-ni. The units drove under blackout conditions over narrow, rutted, ice packed roads until midnight when they reached a destroyed bridge in the vicinity of Hapso-ni. While the engineers repaired the bridge, the units formed a

defensive perimeter. By this time they had covered half of the fifteen miles to Chipyeong-ni.¹⁶

At dawn on the 15th, the 1st Battalion, 5th Cavalry under Lieutenant Colonel Morgan Heasley, attacked to seize the key terrain feature on the right side of the road. This hill dominated the road to the north for several miles. The battalion was stopped in the face of withering enemy fire after advancing only one hundred yards. Colonel Crombez then sent the 2nd Battalion, 5th Cavalry, commanded by Lieutenant Colonel Paul Clifford, to seize the high ground on the left side of the road. Soon the entire regiment was committed to a general attack supported by two artillery battalions and numerous air strikes. By 1100 it became apparent that the 23rd Infantry would not be relieved before darkness arrived unless special measures were implemented.¹⁷

Colonel Crombez faced several important tactical considerations. First, the mission of the regiment was to open the road for supply and medical vehicles to help the beleaguered 23rd Infantry. He had already failed in that mission. Colonel Crombez radioed to Colonel Jack Chiles, who had replaced the wounded Colonel Freeman as Commander of the 23rd, and told him that he thought only tanks would be able to get through and that the trains would have to follow later. Chiles responded saying, "Come on trains or no

trains." Second, a helicopter reconnaissance by Colonel Crombez showed that the tanks would have to move up a narrow road, and at one point move through an embankment that dominated the road.

The enemy was equipped with the 3.5 inch bazooka, capable of knocking out either the Patton or Sherman tanks of the task force. The enemy also relied on pole and satchel charges employed by fanatical hunter-killer teams as a part of their anti-tank defense.

Planned fires by the supporting artillery could have provided the task force an effective screen against these attacks. Colonel Crombez determined that there was insufficient time to register the artillery and there was a chance that the artillery could knock out a tank on the road cutting the column in half. His concern for an errant artillery round caused him to order a rifle company from 3rd Battalion 5th Cavalry to ride on the tanks to protect them from enemy close-in attacks. Engineers were added to the task force to help clear any mines ... were encountered.¹⁸

There were additional considerations which had nothing to do with the military situation. Earlier in November, the 5th Cavalry had failed to break through to the surrounded 3rd Battalion 8th Cavalry at Unsan. That unit was overrun and destroyed. Colonel Crombez felt pressure

not to fail again and leave the 23rd Infantry to the same fate. The entire chain of command up to the Army Commander, General Ridgway, focused its attention on the actions of the 5th Cavalry. Colonel Crombez received radio calls of encouragement directly from General Ridgway. By the end of the day, the entire Eighth Army chain of command from General Ridgway down to Captain Hiers, the lead task force company commander, was on the same radio net.¹⁹

Lieutenant Colonel Edgar Treacy, Commander of 3rd Battalion 5th Cavalry, was violently opposed to the commitment of infantry with the tanks in this situation. He believed the intense fire that the the regiment had already received from the enemy and their exposed positions on the tanks would, make their ride suicidal. Colonel Crombez was not swayed by Treacy's argument. Lieutenant Colonel Treacy then asked that he at least be allowed to accompany the rifle company on this dangerous mission. Colonel Crombez categorically denied it.²⁰

The decision to send an armored task force meant a reorganization of the column. The tanks in D Company, with their heavier armor and their superior ability to turn around in close terrain, were moved to the head of the column. They were followed by the M4A3s of A Company. While reorganizing the column, the infantry Company

Commander, Captain John Barrett of L Company, 3rd Battalion 5th Cavalry, and Captain Hiers of D Company, 6th Tank Battalion, worked out the signals to be used to mount and dismount the infantry. They agreed that when the tanks stopped, the infantry would dismount to provide close-in protection. When the signal was given to continue the advance, Captain Hiers would radio the tank commanders of the company who would in turn recall the infantrymen.²¹

Captain Barret placed his 160 men on the tanks in the middle of the column. This left four tanks at the beginning and four tanks at the end of the column without infantrymen. Four engineers were placed on the second tank of the column. Each platoon leader designated a soldier on each tank to man the .50 caliber machinegun. He also instructed the soldiers that there would be a truck at the end of the column to pick up the wounded or those separated from the tanks during the attack. Captain Barrett then mounted the sixth tank in the column where he was joined by Lieutenant Colonel Treacy who chose to disobey Colonel Crombez's order.²²

Before the column began its move, the planes of the Far East Air Force (FEAF) strafed and bombed the hills along the road to Chipyeong-ni. Light observation aircraft gave constant reports of enemy activity and location.²³

Colonel Crombez closed the hatch on his tank, the fifth in the column, and at 1545 ordered the column to move out. The column stretched for over a mile with tanks at 50 meter intervals. The progress of the task force drew only occasional small arms fire until it reached the village of Koksuri, about two miles from the start point, and three miles from Chipyeong-ni. Just as the lead tank reached a bridge bypass south of the village and stopped, a crescendo of machinegun and mortar fire fell on the column. Wounded infantrymen fell or were forced off of the tanks by enemy fire. They took cover not to protect the tanks, but to survive.²⁴

Colonel Crombez ordered the column to continue. Without warning the infantry, the tanks of the column began to move. There was a mad scramble as the infantry tried to climb back onto the tanks. Most of the men made it, but about thirty men, including some wounded, were left behind. Captain Barrett shouted to those left behind, "Stay by the road! We'll come back for you." Both Lieutenant Colonel Treacy and Captain Barrett were furious with Colonel Crombez. Lieutenant Colonel Treacy told Captain Barrett that he intended to bring formal charges against Colonel Crombez for his actions.²⁵

After passing through the village Koksuri, and traveling about a mile, the tanks again stopped to return enemy fire. Captain Barrett and Lieutenant Colonel Treacy deployed with their men about 50 to 75 yards from the tanks in the nearest available cover. For the second time the tanks began moving without informing the infantry to remount. Captain Barrett managed to get on a later tank as it drove by, leaving Lieutenant Colonel Treacy and about 60 men behind. Again Captain Barrett called to the men to remain by the road until he returned.²⁶

As the tanks moved towards Chipyeong-ni, there were several brief halts. Tankers asked permission to engage the enemy which were pouring fire down onto the tanks and the exposed infantrymen. Colonel Crombez ordered the tanks to continue moving.²⁷

Nearing Chipyeong-ni, the lead tank passed through the cut and was struck by a rocket. The entire tank crew was wounded but the tank was not disabled and continued moving, clearing a vital choke point along the road. Captain Hiers entered the cut in the fourth tank and was struck in the head by another rocket. The turret exploded and the tank burst into flames killing Captain Hiers and the remaining crewmembers in the turret. In spite of wounds and the danger of more explosions, the driver of the tank kept

it going until it cleared the embankment and drove off onto the side of the road. The remaining tanks of the column moved through the embankment without difficulty.²⁸

In Chipyong-ni, the 23rd Infantry launched a simultaneous counterattack to assist the breakthrough of Task Force Crombez. The encircling CCF also launched a last ditch attack and were caught between the counterattacking elements of the 23rd Infantry and Task Force Crombez. The attacking CCF forces were destroyed and at 1700, Task Force Crombez entered Chipyong-ni.²⁹

Captain Barrett's headcount in the perimeter totalled only 23 men, of which thirteen were wounded. He asked for tanks to return and pick up the men who had been left behind and was told by Colonel Crombez, "No, I'm not going back. There's too much enemy fire." Fortunately, many of the soldiers left behind managed to return to friendly lines without help. The final count revealed the company had suffered twelve dead, 40 wounded, and nineteen missing.³⁰

At 1100 the next day, the tanks retraced their route to rejoin the regiment without firing a shot. Colonel Crombez faced open hostility and bitter criticism from fellow officers in the regiment for his conduct. Captain Barrett and the remaining officers of the 3rd Battalion 5th Cavalry were transferred out of the regiment. Lieutenant

Colonel Treacy died in captivity. Colonel Crombez also made note of Lieutenant Colonel Treacy's disobedience in official regimental and divisional records.³¹

In spite of the bitterness of the soldiers under Colonel Crombez's command, General Ridgway declared that he had made one of "the best local decisions of the war." Colonel Crombez's actions also reflected the guidance given to the army by General Ridgway who said:

Again and again, I instructed both corps commanders to so conduct their withdrawals as to leave strong forces positioned as to permit powerful counterattack with armored and infantry teams during each daylight period, withdrawing these forces about dark as necessary.³²

Lessons

In order to relieve the 23rd Infantry at Chipyong-ni, Task Force Crombez conducted tasks essential of an armor-infantry team. Success or failure to properly conduct these tasks is less important than the model this operation provides to examine the general conduct of the armor-infantry team in Korea. In examining the actions of Task Force Crombez and other units, a general statement

about the employment of armor-infantry doctrine in Korea can be made.

The examination will encompass the areas of organization and command and control. These areas are singled out because they are intrinsic to the execution of armor-infantry doctrine.

The importance of organization is self evident. Organization establishes both the potential and the requirement for the use of armor-infantry doctrine. During the Korean War, tanks were organic to the infantry divisions at the regimental and divisional levels. In order to build an armor-infantry team, these tanks were attached to infantry battalions or at lower levels.

In examining how the armor-infantry teams were built and the rules used to build them, the degree of compliance of units in Korea with the stated doctrine can be determined.

While organization generally occurs prior to the commencement of operations, the command and control of that organization during combat is settled on the battlefield. Here the object is to examine the means of command and control in armor-infantry teams and how they were used. This in turn describes how the armor-infantry team worked

together and the degree to which the stated armor-infantry doctrine was applied.

Organization

Armor units attached to the 5th Cavalry were for the most part, derived from a normal support relationship. A Company, 70th Tank Battalion, had been associated with the 5th Cavalry Regiment and the 1st Cavalry Division since the regiment had participated in the battles of the Naktong Bulge in August of 1950. In contrast, D Company, 6th Tank Battalion, was not even a unit assigned to the 1st Cavalry Division. This tank company was ordered to join the regiment due to its proximity to the battlefield.

In spite of the habitual association between A Company of the 70th Tank Battalion and the 5th Cavalry Regiment, historical records indicate that the task force commander designated C Company, not the habitually associated A Company, to coordinate with the infantry. This indicates that the task force commander placed a greater value on the technical capabilities of the M46 Patton tanks than he did in the increased combat efficiency and cohesion created by the habitual association of the other two units.³³

Habitual association and the resulting cohesion proved to be an important combat multiplier during the Korean War. This combat multiplier can be seen in the actions of Task Force Dolvin. Task Force Dolvin's performance also validated the correctness of published armor-infantry doctrine.

During the breakout from the Pusan Perimeter, Task Force Dolvin consisted of two companies of the 89th Tank Battalion and two companies of the 32d Infantry. Both units were assigned to the 24th Infantry Division. The 89th habitually supported the 32d Infantry in the defense on the Pusan Perimeter and the Task Force Commander put their close association to good use. Lieutenant Colonel Welburn Dolvin, Commander of the 89th Tank Battalion, described the Task Force's break out from the Pusan Perimeter in this manner:

The success of our operation showed what teamwork could do. The tanks alone could not have done the job. Neither could the infantry do it alone.³⁴

During the operation, both tank companies used their superior fire power and mobility to destroy fleeing enemy troops and delaying positions. The infantry companies prevented close-in enemy attacks and seized key terrain which impeded the Task Force's advance.³⁵

In spite of the recognized value of the habitual association of armor-infantry units, the 89th Tank Battalion was later reassigned to the 25th Infantry Division.

An examination of a third task force further illustrates the general inability of combat forces in Korea to effectively organize armor-infantry teams. The task force was thrown together without regard to command and control considerations. Key leaders of the controlling headquarters were unprepared to assume the leadership of an armor-infantry team. This leadership deficiency was primarily due to lack of training and a lack of understanding of the capabilities of the armor-infantry team.

The organization of Task Force Gerhardt in May of 1951, by the X Corps Commander, Lieutenant General Almond, is typical of the way task forces were built during the Korean War. At 0600, on 24 May, the 72d Tank Battalion Commander, Lieutenant Colonel Elbridge Brubaker, received a warning order from the 2nd Infantry Division G3, Lieutenant Colonel Clare Hutchins, that his battalion of two tank companies was to form part of a task force. At 0900, Lieutenant Colonel Brubaker received confirmation of the order, and that the task force was to begin its move at 1200. The order stated that the battalion was attached to

the 187th Regimental Combat Team (RCT) (Airborne) who was in turn attached to the 2d Infantry Division.

Lieutenant Colonel Brubaker flew to the 187th Regimental Command Post to confer with representatives of the 2nd Infantry Division and the 187th RCT. At the CP they met Colonel Gerhardt, Executive Officer and the 2nd Infantry Division G3, Lieutenant Colonel Clare Hutchins. There they discussed the operation, and unable to decide who would command the task force, went to find the 187th RCT Commander, Brigadier General Frank Bowen. Failing to find the general at his Forward Command Post, they returned to the 187th RCT CP.

At 1145, Lieutenant Colonel Brubaker moved to his B Company, which was working as an indirect fire element, and informed the Company Commander, Captain William Ross that he should prepare to move northward at 1200 as a part of a task force under the command of Colonel Gerhardt.

Captain Ross immediately reported to the 187th RCT CP where he was told by Colonel Gerhardt to dispatch a platoon of tanks to act as the task force advance guard. Captain Ross sent his 3rd Platoon forward to the start point and followed with the remainder of the company.

Major George Von Halben, executive officer of the 72d Tank Battalion, had been designated the commander of the

advance guard by Lieutenant Colonel Brubaker. He did not know of his assignment because he was moving the main body of the battalion 20 miles to the start point. Lieutenant Colonel Brubaker was not in radio contact with the battalion executive officer. Major Von Halben and the main body of the battalion did not arrive at the start point until 1400.

Major Charles Newman, Assistant Executive Officer of the tank battalion, was salvaging repair parts from destroyed tanks when he ran into the tank battalion commander. The battalion commander sent him to the 187th CP to replace Major Van Halben as the advance guard commander.

In a subsequent interview, Major James Spann the 32 stated that it appeared to him that the 187th RCT took no initiative in organizing the task force or the covering force and that Lieutenant Colonel Brubaker was forced to take charge of the operation.

Major Newman went to the 187th RCT CP, received his orders to secure a bridgehead over the Sohang River, and went to the start point. Here he found not only a muddled collection of units, but B Company of the 64th Tank Battalion. Faced with a number of problems himself, he left this unplanned addition to the task force or advance guard to be sorted out by his battalion commander.

He organized the advance guard, and while an engineer platoon that he had "stolen" cleared the road of enemy mines, he also attempted to get all his units on the same radio net.

Lieutenant General Almond landed in his helicopter at Major Newman's location and demanded to know why the unit was not moving. Major Newman explained to him what he was doing. To this Almond replied:

I don't give a god damn about communications. Get those tanks on the road and keep going until you hit a mine. I want you going at 20 miles an hour.

Major Newman complied with his orders. Lieutenant General Almond then flew to the 187th CP where he descended upon the 72d Tank Battalion S3, Major Spann and said:

Tell Brubaker to get that god damn tank column moving whether they got infantry support or not.

Major Spann raced off to find Colonel Brubaker. Colonel Gerhardt rushed up to Captain Ross, the Commander of B Company, 72d Tank Battalion, and told him to get the tanks up the road behind the advance guard as fast as possible. Captain Ross was forced to separate his company, which was intermingled with the other vehicles of the task force, and

lost valuable time. Captain Ross' threats and the use of superior horse power, cleared the road and the tank company moved to the support of Major Newman.³⁶

Two facts emerge from an examination of how task forces were organized in Korea.

First, the assignment of units to conduct an armor-infantry operation had little to do with the habitual supporting relationships of the units involved. Although the majority of the integrated tank-infantry operations show infantry being supported by the divisional tank battalions, a closer examination reveals that the proximity of the tank unit to the point of effort was more relevant than any other organizational consideration.

Second, the leadership of the armor-infantry team often fell to those least qualified to make it work. In the case of Task Force Crombez, the Regimental Commander took charge of a task force that was best led by the reserve Battalion Commander, Lieutenant Colonel Treacy. Treacy was familiar with the prior coordination required of an armor-infantry team. Colonel Crombez's callous handling of the operation made the coordination of the infantry and tank company commanders useless. In directing the infantry to ride on top of tanks, in spite of his knowledge of the enemy and the terrain, he demonstrated his lack of understanding

of the capabilities of the tanks in the task force. He also failed to understand how the infantry was to assist the tank companies in accomplishing their assigned mission.

Lieutenant Colonel Welburn Dolvin, the Commander of Task Force Dolvin, is an example of a well qualified leader executing a successful, classic armor-infantry mission. Lieutenant Colonel Dolvin was well qualified to lead an armor-infantry team by virtue of his World War II combat experience and recent training. During World War II he served as a paratrooper which gave him an understanding of the infantryman and his special capabilities. He recieved his command directly from his assignment at the Command and General Staff College, where he was the principle author for the Army manual on armor-infantry tactics.³⁷

The total chaos that preceeded Task Force Gerhardt is another example of a leader who failed to understand the requirements of an armor-infantry team. Colonel Gerhardt, although in command of the operation, lacked the knowledge to control an armor-infantry team. Who is in charge is often a sensitive issue, and must be decided in the favor of soldiers lives. The search for General Bowden was undoubtedly done by soldiers who recognized this, and hoped to resolve the issue. Time ran out and the formal command remained with the 187th RCT, while control was placed into

the hands of Major Newman of the 72d Tank Battalion. Lieutenant General Almond displayed his ignorance by demanding that tanks, not teams, move to secure a bridgehead over the Sohang River. If he had wanted tanks to push an overextended, tottering foe, why demand a task force with its inherent organizational problems?

Failure of key leaders to understand the capabilities and limitations of the armor-infantry team is a recurring subject in observer reports and military periodicals of the period.

In an Army Field Forces Training Bulletin, dated 29 November 1950, the performance of units in Korea in conducting combined arms operations, was reported to be below standards. The primary reason for sub-standard performance was the failure of the field commander to understand the limitations and capabilities of each of these arms.³⁸

Lieutenant Colonel Carrol McFalls, who commanded the 70th Tank Battalion of the 1st Cavalry Division, wrote that the typical small unit infantry officer had little or no understanding of how to tactically employ, or logistically support an armored formation. Lieutenant Colonel Elmer Reagor, who commanded the 140th Tank Battalion of the 40th

Infantry Division, described the armor-infantry team in this manner:

Far too often the tank-infantry team degenerates into tanks operating in the vicinity of an infantry unit, with a vague mission to shoot somewhere.³⁹

Armor battalion commanders, with companies that were attached throughout the divisions, present a potentially biased view. Infantry battalion commanders, while casting fewer disparaging remarks about the ability of their peers to make effective use of the armor-infantry team, do address its values and the special requirements that it placed on leaders.

Lieutenant Colonel Robert Demers, Lieutenant Treacy's predecessor as Commander of 3rd Battalion 5th Cavalry, wrote,

Tank crews and infantrymen alike must be taught the procedures and capabilities and limitations of each others weapons.

The infantry commander who makes a strong attempt to see that his personnel are thoroughly oriented in the use of armor and in turn employs his armor properly will be paid off many times over.⁴⁰

Major Warren Hodges, who commanded the 2d Battalion 38th Infantry of the 2d Infantry Division, supports the points made by Lieutenant Colonel Demers:

Tank-infantry teamwork is not acheived by merely talking about it. Each new replacement, both officer and enlisted, must realize the capabilities and limitations of both the tank and the infantryman. Most of all the infantryman must have confidence and knowledge of what the tank can do for him.⁴¹

The importance of understanding the capabilities and limitations of the tank and the infantryman was not restricted to the battalion command levels. Junior leaders also remarked on their experiences as a part of the armor-infantry team.

Lieutenant Robert Harper, a platoon Leader in the 72d Tank Battalion of the 2d Infantry Division wrote that attached tank platoons were used by officers who "lacked familiarity" with the employment of tanks. As a Platoon leader he was not called upon to give recommendations of how armor could best support the operation, he instead received orders, parcelled out his tanks, and executed the task he was given.⁴²

A letter by Lieutenant Robert Keller of the 3rd Infantry Division, written to his father stationed at the Armor

School, includes a revealing paragraph of the relationships that existed between attached armor and infantry units:

As a result of those three days, the 1st Battalion is extremely pleased. Our work together has been a practical example of what the book teaches about combined arms cooperation. The 1st Battalion is not only far in front of the units on both flanks, but ahead of its own schedule. Heretofore they forgot almost completely about the attached tank unit; now they are beginning to get some real respect for armor--including sending me messages when the radio is out and treating me as the tactical armor advisor, which is probably the best complement the infantry can pay armor.⁴³

Lieutenant Keller's hard work proved the value of the armor-infantry team. The high note with which Lieutenant Keller ended his association with the 1st Battalion was not often repeated. A Far East Command Report entitled, Survey of Tank Battalion Experiences in Korea, states that most armor officers felt they had been given inadequate support by infantry units during combat operations.⁴⁴

Command and Control

"Coordination is neither accidental nor automatic." This line from Gugeler's discussion of the actions of Task Force Crombez in his book, Combat Actions in Korea, provides

a basis for the analysis of the means armor-infantry teams used to coordinate combat actions.⁴⁵

This coordination can be translated into command and control and is succinctly summarized by Lieutenant Colonel John Harris, who commanded the 3rd Battalion 65th Infantry of the 3rd Infantry Division:

Tank-infantry teamwork, needless to say, is very essential to the success of an operation. When, for example, a tank battalion and an infantry battalion are notified that they are to work together on a task force into enemy territory, it is essential that the two commanders get together at the earliest opportunity.

At this time, in addition to making certain that the mission is thoroughly understood by both commanders, including the plan of maneuver, routes to and from an objective area, timing, etc, it becomes a matter of getting down to the actual mechanics of the operation.

How will the action be controlled once contact with the enemy is made? In other words, how can the infantry commander get the supporting fires of the tank where he wants it when he wants it?

In order to do this so that the full support of the tanks can be utilized, tank and infantry company commanders who are to work together on the operation are paired off to get down to the fine points--after the task force commander has explained the plan of maneuver of the task force as a whole and the part the individual tank-infantry teams will play.⁴⁶

Gugeler attributes the poor command and control in the relief of Chipyong-ni to the absence of planning. This focus on planning misses one of the true problems of the armor-infantry team and implies that planning is sufficient to allow the smooth command and control of the participants. When the lead tank stopped at the bridge by pass south of Koksu-ri, the plan began to fall apart. Command and control which had been coordinated at the company level, was overcome by the orders of Colonel Crombez. The only way to effect new coordination, based on the change in the tactical situation, was through a method of command and control. Command and control is crucial to the proper implementation of armor-infantry doctrine. Tactical radio, visual signals or the implementation of standing operating procedures are the three most common methods of command and control.

Tactical Radio Communications

The tactical radio of the American Army made an inauspicious beginning in Korea as a part of the equipment of Task Force Smith. Through the early morning fog and drizzle on the 5th of July 1950, the T34/85 tanks of the NKPA, 107th Armored Brigade attacked and penetrated the anti-tank defenses of the battalion. As the enemy tanks

passed the supporting battery, they destroyed the wire communications with the forward observers. With five of his six original guns still operational, the battery commander waited for calls for fire which never came. Lieutenant Colonel Charles Smith, seeing the tanks pass through his positions, assumed the artillery to be overrun. There was no way he could know for sure. His radios, wet and antiquated, failed at the critical moment in the battle.⁴⁷

In the First Observer Report by the Office of the Chief of Army Field Forces, conducted in August of 1950, the weakness of tactical radio communications is listed as a major contributor to the poor performance of Army units.⁴⁸

As the war progressed the radios in use by armor and infantry soldiers did not change. In spite of a radio design which allowed an overlap of certain frequencies, the radios of armor and infantry soldiers would not communicate. This was especially telling in the actions at Chipyeong-ni. Unable to communicate via radio, dismounted infantry relied on the prearranged procedures worked out by the infantry and armor company commanders. Further, the infantry company commander rode on the armor company commander's tank to facilitate the exchange of communications. This procedure failed to work when Colonel Crombez directed the progress of both the lead company and the Task Force from an entirely

different tank. Commander of the 1st Battalion 17th Infantry of the 7th Infantry Division, Lieutenant Colonel Edwin Sayre, describes the problems of controlling the armor-infantry team:

Practically speaking, the SCR 300 radio is the basic means of communication to tanks and infantry, but its use can be varied. Often, I have found it impossible to contact the tankers on the SCR 300, so I have made it a rule to hold one tank in the rear as a communications tank which is used to relay messages.⁴⁸

Tank radios became the basis for not only company level communications, but also assisted the armor-infantry team to communicate with the battalion and higher headquarters. Lieutenant Thomas Boydston of the 70th Tank Battalion described tactical communications in this manner:

They have also come to admire the highly flexible and dependable communications net indigenous to armor. Often, when action is beyond the effective range of the less powerful infantry radios, tanks have helped infantry battalion and regimental commanders keep abreast of the situation by radioing reports to a radio-equipped jeep stationed at the infantry command post.⁵⁰

Even this communications "lash up" was fragile. In describing the operations of Task Force Dolvin after the breakout from the Pusan Perimeter, the task force commander,

Lieutenant Colonel Dolvin described his communications with the higher headquarters as the weakest link in an otherwise powerful armor-infantry team. The route of advance, the long distances, and the masking terrain encountered by the task force played havoc with consistent communications throughout the command and control structure.⁵¹

A more poignant example of the impact of communications on the armor-infantry team can be seen in the destruction of Task Force Faith, east of Chosin, in November of 1950.

In the same series of X Corps actions that preceeded the defense of Chipyeong-ni, the 31st Regimental Combat Team (RCT) was assigned east of the Chosin reservoir as the flank guard of the 1st Marine Division. The battalions of the regiment were caught in an overextended position and pinned against the resevoir. The infantry battalions were encircled and under heavy attack. They finally succeeded in consolidating the RCT into a single perimeter. Once in this perimeter, they received word that the corps could not counterattack and break them out. Further, they were informed that the corps planned to retreat, moving farther away from the regiment. This prompted the regimental commander to attempt a breakout.

On the 29th of November the 31st RCT Tank Company Commander, Captain Drake, set out with twelve tanks to assist Task Force Faith in their attempt to break out. At 0800, the tank company, with the addition of around 50 soldiers from the headquarters company, began their attack. Icy roads made the movement of the tanks treacherous. Task Force Faith, less than four miles away, knew nothing of the attack by Captain Drake because the infantry radios of the regiment could not communicate with those of the tank company. Regimental headquarters at Hudang could not communicate with the surrounded regiment due to masking, and the limited range of the infantry radios. In failing to coordinate the attacks of the armor-infantry team under Captain Drake with the soldiers of Task Force Faith; the last chance of extracting the regiment was lost.⁵²

Communications ended the attack by Captain Drake and his armor-infantry team with an ironic twist. Unable to communicate with the pilots of the prearranged air strikes, the infantrymen of the team were strafed and bombed by their own air support as they attacked the dug-in CCF. By noon the team lacked sufficient infantrymen to continue the assaults. One tank platoon, covering the withdrawal of the infantrymen, was overrun and lost two tanks to 3.5 inch bazookas. Captain Drake counterattacked to recover the

disabled tanks, but failed. Using direct fire from the attacking tanks, he destroyed the disabled tanks and retired to Hudang.⁵³

At this point a tank radio contributed to one of the most controversial orders of the war. At 1600 on the 30th of November, the S3 of the 31st Infantry Regiment, Major Berry Anderson acting on orders from division headquarters in Hagaru relayed the order to Captain Drake's company and the remainder of the Headquarters company to pull back to Hagaru. The only way for the message to have been transmitted was through a tank of the 31st Regimental Tank Company detailed to the division headquarters for this purpose. Who issued the order is not known. In withdrawing the tank company from its defensive positions at Hudang, any linkup with the men of Task Force Faith was prevented and Major Faith's "stepping stone" to freedom disappeared.⁵⁴

Tactical radios and their limitations required leaders on the ground to adjust how the armor-infantry team conducted operations. These limitations placed increased emphasis on the use of visual signals and attempts to standardize operating procedures to effectively implement armor-infantry doctrine.

Visual Signals

Almost all of the visual signals used in Korea served to increase the effectiveness of suppressive fires and to ensure the safety of attacking infantrymen. Soldiers reporting on their experiences indicate that all types of colored smokes and flares were used. Smoke was often the means of second choice due to the overwhelming superiority of American firepower. Substitutions for smoke indicate battlefield innovation based on a desire to increase the combat efficiency of the armor-infantry team.⁵⁵

A lieutenant in the 72d Tank Battalion, when operating with infantry platoons, had the all the tracer ammunition of the platoon given to the infantry platoon leader and the squad leaders. This allowed the supported platoon to quickly designate targets for the tanks to engage. An infantry battalion commander placed small "cerise" colored marker panels in the belts of the squad leaders of the attacking infantrymen. This allowed tanks to fire in front of the infantry as it advanced, as well as focusing fires on those units which were obviously being held up. The same battalion commander also used the 57 mm recoilless rifle firing white phosphorus ammunition to mark targets. A second infantry battalion commander also used

marker panels to assist his troops as they attacked across open terrain to seize distant objectives.⁵⁶

Training and Standing Operating Procedures

In the majority of the cases in which visual communication methods were used, the infantry and armor commanders had to quickly establish these communication methods just prior to the beginning of operations. The lack of a standing operating procedures forced attached and supported units to work out these vital details at the cost of more detailed planning. Intrinsic in an effective standing operating procedure is the ability of the unit to rehearse and train using the standing operating procedure. This subject is a common theme in the periodicals and literature of the day.

Lieutenant Colonel Carrol McFalls, Commander of the 70th Tank Battalion of the 1st Cavalry Division, wrote that the lack of a coherent unit operating procedures forced units to attain combat efficiency through trial and error. Lieutenant Colonel Robert Demers, Commander, 3rd Battalion 5th Cavalry, describes the training required to establish standing operating procedures:⁵⁷

Too much emphasis cannot be placed on one subject--continuous training during the lulls in the fighting and actually during the fighting.

Continuous training of infantry troops in conjunction with tankers will produce techniques and bases of mutual confidence so necessary in the tank-infantry team.⁵⁸

The concerns of these battalion commanders are reflected in the Office of the Chief of Army Field Forces (OCAFF) reports on the state of training of units in combat during the Korean war.

All the training bulletins which describe the training deficiencies of combat troops in Korea call for an increased emphasis in combined arms training. Although many of the initial failures of the armor-infantry team could be attributed to the lack of tanks in the far east and the organizational structure of the units committed, later reports still identify problems in the area of armor-infantry training. In one training bulletin the following recommendations were made:

The integration of tank-infantry training must be implemented at every opportunity during the training cycle. This training should commence when tank crews are competent to handle their vehicles and weapons. Small unit field problems; at the platoon and company level are excellent for teaching tank-infantry teamwork.⁵⁹

Battalion commanders also recommended that armor-infantry training begin during basic training in an effort to overcome the initial difficulties of operating a tank-infantry team in combat.⁶⁰

From a close examination of the methods of commanding and controlling the armor-infantry team, as well as a number of detailed battle reports, a picture of the ability of the American Army to implement the stated armor-infantry doctrine begins to emerge.

Without the ability to effectively communicate at the lower levels, infantry and armor could not make rapid operational changes. This was a severe handicap for a team whose hallmark should have been flexibility in the face of changing tactical situations. The collocation of the armor and infantry leaders on tactical vehicles helped ease this problem somewhat, but also tied the infantry leader to the tank's radio when he should have been leading his soldiers. Commanders at all levels relied on the tank's radio to communicate which dissipated combat power needed in close combat.

The power and flexibility of the tank's radio made tanks invaluable to the exchange of vital combat information. This in turn allowed them to quickly intervene to gain tactical advantage.

Visual signals became an art form to compensate for the weakness of tactical radios. The use of marker panels and tracer ammunition to provide the accompanying tanks information of where fire was required increased combat efficiency. In this case the unreliability of the tactical radios enhanced combat performance by forcing the armor-infantry team to closely coordinate signals and actions prior to contact.

The variety of visual signals and the ad hoc communications systems were coordinated and constructed prior to each action. Habitual association and its ability to create cohesion, mutual confidence, and a standing operating procedure, did not occur. The reason for this can be directly attributed to the insufficient number of tanks available, poor armor-infantry training, and the failure of senior leaders to understand the combat multiplier which can be derived from units which train and fight together.

CHAPTER 5

DOCTRINAL GARDENS

Looking about the Army today, one sees battalions of staff officers whose duty requires them to tend various doctrinal gardens.¹

Dr. Roger Spiller

This thesis resolved to determine the ability of the United States Army to incorporate the lessons of history in the development of armor-infantry doctrine.

Necessary to this objective was a clear definition of doctrine and those factors which make doctrine meaningful. In seeking this definition, several enduring problems surfaced that plague both the armor-infantry team of the Korean War and the armor-infantry team facing the implementation of Airland Battle.

There appear to be many different interpretations of the meaning and purpose of doctrine. These characterizations often fail to adequately address vital concepts intrinsic to doctrine. A rigorous search of military literature produced endless aphorisms which describe the characteristics of doctrine, but do not define

it. The School for Advanced Military Studies lists no less than eighteen different descriptions of doctrine in their 1989 glossary of theoretical terms. Included in this list is a description found in the 1986, FM 100-5, Operations:²

An army's fundamental doctrine is the condensed expression of its approach to fighting campaigns, major operations, battles, and engagements. Tactics, techniques, procedures, organizations, support structure, equipment, and training must all derive from it. It must be rooted in timetested theories and principles, yet forwardlooking and adaptable to changing technologies, threats, and missions. It must be definitive enough to guide operations, yet versatile enough to accommodate a wide variety of world situations. Finally, to be useful, doctrine must be uniformly understood.³

For the purpose of this study, this description of doctrine served to provide a basis of understanding of both general doctrine and armor-infantry doctrine. Even this complex and robust definition fails in several important aspects and shows how doctrine resists definition.

The description of tactics, techniques, procedures, organizations, support structures, equipment, and training, as derivations of doctrine is inaccurate. Doctrine has also evolved as a result of technological advances and the analysis of unit performances at the National Training Center.

Technology has influenced doctrine by giving weapons systems extended range and lethality. For example, the introduction of the thermal imaging fire control system in the M1 tank has dramatically increased the ability of tank crews to acquire and destroy targets during limited visibility. Technological advances create two effects which directly impact doctrine. In the first effect methods of employment must be incorporated into doctrine to counter the technological advance. The second effect is the development of methods of employment to capitalize on the advantages that technology has given military organizations. In both cases technology has forced changes in doctrine.

Since training operations began at the National Training Center units have searched for methods to defeat OPFOR units. Early after action reports indicated that the OPFOR's use of reconnaissance was one of the major contributing factors in their ability to defeat their opponents. Recognizing this, subsequent units placed great emphasis on counter-reconnaissance actions to deny the OPFOR vital information. This new emphasis created new doctrine and organizations to deal with the threat. Unit strengths and weaknesses discovered during this special training activity, have directly influenced doctrine.

Force Modernization also impacts on the evolution of doctrine. The long lead-time required to procure and field systems often results in an army unable to implement doctrinal concepts because the equipment required to make them work are not in the hands of the soldier.

For these reasons, factors which are described as derivations of doctrine are in fact intrinsic to it. While doctrine is the keystone upon which systems of war are built, the systems possess a feedback loop which can ultimately cause the evolution of or even create new doctrine.

Another weakness of the definition is that it considers doctrine as the starting point in the development of organizations, tactics and equipment. This focus ignores political and fiscal realities. Accepting these realities opens doctrine to the influence of external factors which are often not under the direct control of the military. This can create significant dilemmas which must be resolved prior to the commitment of troops to combat.

The most significant of these external factors is the military budget. Budgets are determined by a long arduous political process. Political and national security compromises have historically resulted in more missions than resources. The end result of this resource and money

mismatch is an attempt by the military to find some manner to decrease the cost of maintaining the standing Army. Three factors compete for constrained resources. These factors are personnel, existing force structure and equipment, and the research and development of future force structures and equipment. When the budget is austere, all three factors have faced cut-backs.

When facing the spectre of reduced budgets the most important consideration of any change to the Army personnel strength, organizations, or programmed modernization must be the impact that these changes have on doctrine. Failure to consider these factors unhinge planned actions on the battlefield and creates a hollow army unable to implement doctrine when called upon to do so.

Doctrine also includes the personnel replacement system which gives life blood to the fighting forces. If doctrine requires the complex interaction between armor and infantry soldiers, an interaction which is also built on mutual trust and confidence, then capricious reassignment without regard to these factors invites poor combat performance and increased casualties.

Doctrine is not just a fighting concept. Without organizations in the field to implement the doctrine and

support systems also designed to sustain it, doctrine is not only useless, it is dangerous.

The last sentence of the 1936 definition of doctrine in FM 100-5, Operations, reads, "Finally, to be useful, doctrine must be uniformly understood." This sentence identifies one of the major problems in the implementation of any doctrine.⁴

The definition and articulation of armor-infantry doctrine throughout the Army has been generally uniform. In spite of this relatively uniform application, a leader's understanding of doctrine differs radically from that which is expressed in the Army schools. This dichotomy breeds misunderstanding and adds needless friction to war. Two battalion commanders who fought in Korea exemplify this dichotomy when they described their combat experiences in this manner:

The battalion in all cases follows the field manuals. We operate these tank-infantry teams exactly as taught at the Armor School.

Lieutenant Colonel Charles Turner

Tank-infantry teamwork in Korea is very difficult to define, as it does not follow the definitions found in the text of either the Armored or the Infantry School.⁵

Lieutenant Colonel John Woods

These two combat leaders fought in the same war, against the same enemy, with the same soldiers, and yet they have a radically different understanding of how the doctrine they were taught, applied to the battlefield.

Both men were wrong. Armor-infantry doctrine as applied to the Korean battlefield began as a hazy remembrance by World War II veterans mixed with leaders fresh from doctrinal instruction in Army schools. Their perceptions of how doctrine applied to their combat experiences is important due to its impact on their future actions as combat leaders. The Army must avoid the creation of numberless interpretations of tactical doctrine. Ideally, sound doctrine is based on proven military concepts purchased with lives of American soldiers. Doctrine and military history help avoid relearning those same lessons in some new battlefield.

Failure to understand doctrine at all levels was a recurring theme during the Korean War. Recognizing the need to get back to basics, General J. Lawton Collins, Army Chief of Staff, published a review of the fundamentals of small unit attack doctrine and the reasons behind these principles. This article by the senior soldier of the Army on small unit doctrine, is a sad commentary on what the Army was forced to relearn as a result of the Korean War.⁶

Relearning basic armor-infantry doctrine on the battlefield was addressed by a Korean War tank battalion commander saying:

Lessons from Korea would indicate that when we depart from the norms in operations, we tend to discard proven doctrines, to our discredit. Better that we realize that our doctrines are sound and effective, and that the degree of our success is directly related to the amount of effort we expend in their application in the less favorable conditions we find in Korea.⁷

Lieutenant Colonel Elmer Reagor

General Hodge, Commander of the Army Field Forces during the Korean War, also believed that Korean War failures could be attributed to the inability of unit leaders to correctly apply doctrine. He wrote:

Many of the deficiencies are not peculiar to Korea--they can be found in historical studies from World War I and World War II. We are still making mistakes that are 35 years old.⁸

Recognition of unnecessary relearning of basic doctrine resulted in a new awareness of the requirement to learn and practice hard-earned combat lessons. While the central issue of what is our present doctrine may not easily be answered, Korea created a consensus that doctrine must be completely understood at all levels of Army leadership.

Further, doctrine must be practiced to prevent a more costly instruction on the battlefield.

Leaders are the most damaging "insects" in the doctrinal garden. During the Korean War, leaders at the regimental combat team and higher levels failed to adequately understand or implement doctrine.

Lieutenant General Almond in the organization of Task Force Gerhardt, and Colonel Crombez in the organization of Task Force Crombez, failed to understand the capabilities and limitations of the armor-infantry team. They organized and led formations in an expedient, ad hoc manner. The creation of units which required mutual trust and confidence, often while in contact with the enemy, resulted in unnecessary casualties and poor combat performance.

A second failure of the doctrinal "insects" is their failure to construct systems necessary to sustain doctrine. An excellent example of this is the impact of the individual replacement system on armor-infantry doctrine during the Korean War. Armor-infantry doctrine, as previously stated, is based on the mutual trust and confidence of the armor and infantry soldiers in the team. This confidence should have been built through integrated training and steeled by combat experience. Individual replacements which arrived in Korea often gained their first experience with tanks just prior to

enemy contact. Requiring raw soldiers to learn the basic lessons of survival in addition to the complex actions of the armor-infantry team, again while in contact with the enemy, often failed and certainly decreased combat effectiveness. This problem is not limited to the American experience in Korea. It also occurred in World War II and again in Vietnam.

If the field commander understood armor-infantry doctrine and believed that the increased combat effectiveness of an armor-infantry team was significant, then the system would have changed. Infantry replacements could have undergone training with tanks in the United States. Failing this, infantrymen could have undergone some type of armor-infantry training upon arrival in the combat zone.

High casualty rates and a war that rapidly turned to positional warfare, made the training of new soldiers in armor-infantry doctrine more difficult. These problems apparently overcame any attempt to develop a training program for the armor-infantry team.

In spite of the confusion and varied viewpoints at the higher levels of doctrine, armor-infantry doctrine at a more practical level remains clear and concise and perhaps more relevant to the serving officer of tomorrow.

Examining the evolution of armor-infantry doctrine from 1941 through 1950, reveals change generated by combat experience. In 1941, armor-infantry doctrine was in its infancy. This immaturity can be seen in the separation of infantry and armor operations into echelons designed to achieve specific tasks. In the crucible of war, these echelons were found to be useless in the maelstrom of combat and a more integrated approach appeared. Combat during World War II revealed the complementary nature of the armor-infantry team. Combat reports indicate that regardless of the terrain and tactical situation, that leaders demanded, built and sustained armor-infantry teams. These demands resulted in recommendations to change the organizations which constituted the armor-infantry team. Intrinsic to these changes was the post-war creation of a tank company which became organic to the infantry regiment. This company provided a basis upon which the regimental commander could build an effective armor-infantry team. This team also benefited from habitual relationships and integrated training which an organic tank company allowed. These same advantages were also realized at the division level by taking World War II, General Headquarters tank battalions, and making them organic to infantry divisions.

Following the Korean War, Army organizations went through numerous changes to keep pace with the evolving threat and advances in technology. The organization of the armor-infantry team has also evolved, and in some cases has gone full circle. The combined arms task force, originally rejected as too costly by the General Board of the European Theater, is presently in use by the 1st Cavalry Division at Fort Hood, Texas. The tank battalion and infantry battalion of one brigade are organized into two permanent task forces, each with two organic tank and infantry companies. Recent tests of the organizations indicate that there was increased unit efficiency and effectiveness fostered by the training and habitual association of the companies within the task forces.⁸

Careful study of armor-infantry doctrine from 1941 through 1952 has revealed substantial changes in armor-infantry doctrine based on the lessons of military history.

Implications

Lieutenant George Tilson was a tank platoon leader in the 89th Tank Battalion during the Korean War. He was also

something of a prophet. In an article for a military periodical he wrote,

The situation that we face now in Korea we will undoubtedly face again in guerrilla infested areas, and well may have to face again in battle against an enemy who makes unstinted use of great supplies of manpower.¹⁰

Lieutenant Tilson's implications were realized in the quagmire of Vietnam and has a high probability of repeating themselves in future conflicts.

Most relevant to future conflicts is the context in which the Korean War was fought and its direct impact on the armor-infantry team.

The Korean War was fought in a backward country with terrain inhospitable to mechanized warfare. Further, the infrastructure of the country generally did not support the movement of armored formations off the main highways. In addition to the poor road net, maintenance and repair facilities for mechanized and wheeled vehicles were virtually non-existent. The repercussions of these factors on vehicle operational readiness is obvious. Any armored element committed to South or Central America, or Africa, as a part of the armor-infantry team will be placed in much the same situation. Lessons learned in the planning and movement, and the maintenance of vehicles and equipment, of

the armor-infantry team, need not be relearned. The lessons already exist in a Korean War primer.

A second aspect of context is the unique combination of infantry and armored soldiers which formed the armor-infantry team. The infantry units employed in the Korean War have direct counterparts in the light and airborne divisions of today's army. The recent increase in the number of light infantry organizations in the Army, increases the probability that these forces will be employed in geographic areas which have already been described. History suggests that the commitment of American infantry to combat will result in an accompaniment by armor and artillery units. It is here that the Korean War has a special significance. Future employment of light infantry and armor formations can look to the combat lessons of the armor-infantry team in Korea and avoid relearning costly lessons in combat. Special command and control procedures which model themselves after those used in Korea, could be of special value to the light infantryman of the future. Means of target designation, and the establishment of unit standing operating procedures, should not be decided under enemy fire and have already been addressed by American soldiers during the Korean War.

Technological and organizational changes in today's forces may make the methods of the Korean War obsolete in many ways. When technology fails and becomes ineffective, and casualties render organizations basic in structure and mission, then combat lessons of the Korean War could become a bedrock of practical, proven armor-infantry doctrine.

Conclusion

The Korean war never ended. An armistice was signed, but American armored and infantry soldiers maintain their vigil in the land of the Morning Calm. Authors have characterized the struggle there as "The Forgotten War", but that is not true. What occurred there is remembered through the evolution of armor-infantry doctrine and one officer's study.

CHAPTER ONE ENDNOTES

1. The preparations for armor-infantry operations discussed here were part of an interview with CSM Joe Offutt on 8 February 1989. CSM Offutt deployed with A Company, 73rd Tank Battalion from Fort Benning, Georgia, to Korea in August of 1950. CSM Offutt served in all crew positions in support of infantry operations while assigned to X Corps. He took part in the defense of the Pusan Perimeter, the landing at Inchon, the evacuation at Hungnam, and several other actions.
2. Secretary of the Army Gordon Gray, "Secretary Gray on the Record," Armored Cavalry Journal 53 (March-April 1950): 13.
3. Clay Blair, The Forgotten War (1987): 50.
4. Gray: 13.
5. Ibid.
6. Blair: 50.
7. Gray: 13.
8. Paul H. Herbert, Deciding What Has to be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations (1984): 99.
9. U.S. Army, DA Pamphlet 20-200, The Writing of American Military History: A guide (1956): 1.
10. Charles A. Willoby, Maneuver in War (1939): 1.

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1. Sun Tzu, translated by Samuel Griffiths, The Art of War (1971): 73.
2. Sun Tzu: 57-59.

3. Robert A. Doughty, The Evolution of Tactical Doctrine, 1946-1976 (1979): 2; United States. War Department, "Report of the War Equipment Board" (1946): 10; Omar Bradley, Letters to the editor, Military Review (May 1949): 3-6.
4. J. Lawton Collins, War in Peacetime: The History and Lessons of Korea (1969): 87.
5. United States. War Department. "Committee Report on Officer-Enlisted Man Relationships" (1946): 7-30. The recommendations of the Doolittle Board had profound impacts on the traditional relationships between enlisted and commissioned officers. Separate messes, latrines, and pay inequalities were abolished. The most significant recommendation was to abolish the Articles of War and replace them with the Manual for Courts Martial. This manual is the basis of today's military justice system.
6. T.R. Fehrenbach, This Kind of War: A Study in Unpreparedness (1963): 39.
7. Maurice Matloff, editor, American Military History (1969): 540.
8. R.E. Depuy and T.N. Depuy, The Encyclopedia of Military History (1977): 1266.
9. Matloff: 542; Alexander Bevin, Korea: The First War We Lost (1986): 43.
10. Fehrenbach: 13.
11. U.S. Army, FM 100-5, Field Service Regulations Operations (1941): I-IV.
12. Ibid.: 5-6.
13. Ibid.: 7-8.
14. Ibid.: 14.
15. Ibid.: 257.
16. Ibid.: 273-280.

17. Dr. Christopher Gabel, Seek, Strike, Destroy: U.S. Army Tank Destroyer Doctrine in World War II (1985): 14.
18. U.S. Army, FM 100-5, Field Service Regulations Operations (1944): 9-11.
19. Ibid.: 307.
20. Ibid.: 310.
21. Ibid.: 313-318.
22. U.S. Army, FM 17-36, Employment of Tanks with Infantry (1944): 1. The propensity for this manual rested with the Armor School. The dissemination of the information in this manual to officers attending training at Fort Benning is not documented. For this reason Armor officers appeared to have a better understanding of armor-infantry team doctrine than their infantry counterparts.
23. U.S. Army, Supplement 1, FM 17-36, Employment of Tanks with Infantry (1944): 37-65.
24. U.S. Army, FM 100-5, Field Service Regulations Operations (1949): 6-7.
25. Ibid.: 256-260.
26. Ibid.: 260.
27. U.S. Army, FM 7-20, Infantry Battalion (1944): 113. This manual also contains extensive information for units conducting amphibious operations.
28. Ibid.: 113.
29. Ibid.: 117-118.
30. Ibid.: 202.
31. Ibid.: 158.
32. U.S. Army, FM 7-20, Infantry Battalion (1950): 149-154.

33. Ibid.: 292.

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1. Roy E. Appleman, South to the Naktong, North to the Yalu (1961): 454.
2. United States. Department of the Army. "Types of Divisions, Post War Army, Study Number 17" (1946): 1. Hereafter referred to as CARL 13032.17-3.
3. Ibid.: 1.
4. Ibid.: 1.
5. Ibid.: 4.
6. Ibid.: 8.
7. United States. Department of the Army. "Organization, Equipment, and Tactical Employment of the Infantry Division, Study Number 15" (1946): 7. Hereafter referred to as CARL 13032.15-2.
8. Ibid.: 7.
9. Ibid.: 6.
10. United States. Department of the Army. "Conference Conclusions for the Armor Conference Agenda" (1946): O-21. Hereafter referred to as CARL 13545. This report is very interesting due to the scope of the subjects addressed at the conference. The focus is on equipment and may be one of the roots of our fascination with technical solutions to military problems.
11. Jonathan M. House, Toward Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization (1964): 147.
12. CARL 13032.15-2: 2; House: 147.
13. CARL 13032.17-3: 21.

14. Ibid.: 28.
15. Terrance J. Gough, U.S. Army Mobilization and Logistics in the Korean War (1987): 25.
16. Clay Blair, The Forgotten War (1987): 48.
17. J. Lawton Collins, War in Peacetime: The History and Lessons of Korea (1963): 79.
18. Blair: 28.
19. Interview with CSM Joe Offutt.
20. Interview with CSM Billy Gray.
21. Blair: 50.
22. Alexander Bevin, Korea: The First War We Lost (1986): 46.
23. John K. Mahon, editor, Army Lineage Series, Part I: Regular Army (1972): 77.
24. David Bergamini, Japan's Imperial Conspiracy (1971): 1368.
25. Blair: 49.
26. Ibid.: 50.
27. Ibid.: 50.
28. United States. Department of the Army. "Report of the Office of the Chief of Army Field Forces, Observer Team to the Far East Command" (1950): 1-23. Hereafter referred to as CARL 17055.8. The Observer Team's visit was very short and the basis upon which they made their decisions is not included in the report. From their trig itinerary it is unlikely that they visited units near the front lines and may have relied on staff briefings to gather their information.
29. Interview with CSM Offutt.
30. Blair: 213.

31. Ibid.: 50.
32. United States. War Department. "Report of the War Department Equipment Board" (1946): 1.
Hereafter referred to as CARL 12960.1.
33. Ibid.: 47; Ibid.: 13.
34. CARL 13545: E-4.
35. Ibid.: 14.
36. CARL 12960.1: 18-19.
37. CARL 13545: E-6; Ibid.: E-21; Ibid.: E-37.
38. Gough: 28.
39. Bevin: 51; Appleman: 69.
40. Blair: 50.
41. Ibid: 50.
42. Appleman: 113-114.
43. Blair: 113.

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1. Roy E. Appleman, South to the Naktong, North to the Yalu (1961): 654.
2. Ibid.: 80.
3. Ibid.: 90.
4. Ibid.
5. Ibid.: 91
6. Clay Blair, The Forgotten War (1987): 113.
7. Simon Dunstun, Armour of the Korean War, 1950-1953 (1982): 5.

8. Ibid.
9. Interview with CSM Offutt.
10. United States. Department Of the Army.
"Special Problems in the Korean Conflict"
(1952): 56. Hereafter referred to as CARL
17055.74-2.
11. Blair: 439.
12. Blair: 696.
13. Blair: 698.
14. Blair: 700.
15. LTC George Pickett, "Task Force Crombez at
Chipyong-ni," in Armor (July-August 1952):
35; Blair: 700; Russel A. Gugeler, editor,
Combat Actions in Korea (1970): 128.
16. Pickett: 35; Guegler: 128. CPT Martin
Blumenson actually conducted the interviews.
17. Ibid.
18. Blair: 706; Gugeler: 128. Blair's account of the
actions of the 5th Cavalry is based on his
research of the 1st Cavalry Division Official
accounts of the action. He also made extensive
use of letters and interviews conducted with John
C. Barrett who commanded L Company, 3rd Battalion
5th Cavalry during the attack.
19. Blair: 706.
20. Blair: 707.
21. Gugeler: 128.
22. Gugeler: 128; Blair: 707.
23. Gugeler: 128.
24. Gugeler: 130.
25. Gugeler: 130; Blair 707.

26. Gugeler: 130.
27. Blair: 708.
28. Pickett: 37.
29. Gugeler: 127-133.
30. Blair: 708.
31. Blair: 709.
32. LTC James F. Schabel, "Ridgway in Korea," in Military Review (May 1964): 12.
33. Appleman: 347; Gugeler: 126; Gugeler: 128.
34. Joseph M. Quinn, "Catching the Enemy Off Guard," in Armor (July-August 1951): 48.
35. Blair: 605.
36. United States. Department of the Army. "Task Force Gerhardt" (1952): 1-8. Hereafter referred to as CARL 17055.62. This report originated in X Corps Headquarters. It purports to show strong, aggressive leadership to seize an opportunity to take the initiative and a key river crossing. This theme is also taken up in the chapter on the Task Force in Gugeler's, Combat Actions in Korea. Some readers see Almond's actions in a negative light. Almond ignores obvious command and control problems by forming an ad hoc task force and further complicates matters by personally intervening. His command and control of platoon and company sized elements from a helicopter will be seen again in actions in Vietnam.
37. Quinn: 47.
38. United States. Department of the Army. "Army Field Forces Training Bulletin" (1951): 9. Hereafter referred to as CARL 17055.1.

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40. LTC Robert Demers, "Sum and Substance," in Armor (March-April 1952): 20.
41. MAJ Warren Hodges, "Sum and Substance," in Armor (November-December 1951): 21.
42. LT Robert Harper, "Sum and Substance" in Armor (May-June 1951): 23.
43. LT Robert Keller, "The Tank Platoon Leader", in Armor (July-August 1951): 13.
44. United States. Department of the Army. "Survey of Tank Battalion Experiences in Korea" (1954): 2. Hereafter referred to as CARL 17055.14.
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46. LTC John Harris, "Sum and Substance," in Armor (March-April 1952): 21.
47. T.R. Fehrenbach, This Kind of War: A Study in Unpreparedness (1963): 105.
48. CARL 17055.1: 111.
49. LTC Edwin Sayre, "Sum and Substance," in Armor (November-December 1951): 23.
50. LT Thomas Boydston, "Sum and Substance," in Armor (May-June 1951): 27.
51. Quinn: 51.
52. Roy E. Appleman, East of Chosin (1987): 155-156.

53. CPT Robert Drake, "A Small Unit Action in Korea," in Armor (September-October 1951): 17; Blair: 507-508.
54. Blair: 186.
55. Interview with CSM Offutt.
56. Harper: 22; Sayre: 22-23.
57. LTC Carrol McFalls, "Sum and Substance," in Armor (November-December 1951): 16.
58. Demers: 20.
59. CARL 17055.1: 20.
60. McFalls: 16.

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4. Ibid.
5. LTC Charles Turner, and LTC John Woods, "Special Report on the Tank-Infantry Team" in Armor (March-April 1952): 18-19.
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9. TRADOC Test and Experimentation Command. "Test Report Number 87-FD-TCAT-0164, Combined Arms Maneuver Battalion Evaluation" (1988): 7.
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