

ENHANCING COMBAT EFFECTIVENESS, THE  
EVOLUTION OF THE UNITED STATES ARMY  
INFANTRY RIFLE SQUAD SINCE THE  
END OF WORLD WAR II

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## ABSTRACT

ENHANCING COMBAT EFFECTIVENESS, THE EVOLUTION OF THE UNITED STATES ARMY INFANTRY RIFLE SQUAD SINCE THE END OF WORLD WAR II, by MAJ Timothy M. Karcher, 97 pages.

This study analyzes the organization of the US Army infantry rifle squad since the end of World War II, focusing on the attempt to gain and then maintain the capability of fire and maneuver at the squad level. Since the end of World War II, the US Army has conducted or commissioned at least nine studies, aimed at determining the optimum organization of the infantry rifle squad. Common trends affect all recent attempts at transforming the US Army and become evident when studying the evolution of the squad, but the goal must remain developing a combat effective unit.

Combat effectiveness is determined by applying the evaluative criteria of control, sustainability, flexibility, and lethality. By applying these four criteria to analyze various squad organizations, one can determine the strengths and weaknesses inherent to these organizations, thereby recommending the most combat effective rifle squad organization.

The US Army's current focus on strategic deployability and emerging weapons capabilities is not a new phenomenon, but potentially could cloud the essential issue, developing a military force for optimum combat effectiveness. This study concludes by recommending the optimum squad-level organization for the "Objective Force."

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## ACRONYMS

AoE	Army of Excellence
ASIRS	<i>A Research Study of Infantry Rifle Squad TOE 1956</i>
BFVs	Bradley fighting vehicles
CDEC	Combat Development Experimentation Center
COE	Contemporary operating environment
CORG	Combat Operations Research Group
DRS	Division Restructuring Study
GPMG	General purpose machine gun
IBCTs	Interim Brigade Combat Teams
IFV	Infantry fighting vehicle
IRUS	<i>Infantry Rifle Unit Study</i>
IT	Information technology
MBTs	Main battle tanks
MOMAR	Modern Mobile Army
OCRSP	<i>Optimum Composition of the Rifle Squad and Platoon</i>
ROAD	Reorganization of the Army Division
ROCID	Reorganization of Current Infantry Division
TOEs	Tables of Organization and Equipment
TRADOC	US Army's Training and Doctrine Command
MOUT	Military operations in urban terrain
NATO	North Atlantic Treaty Organization
ROE	Rules of engagement

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## CHAPTER 1

### INTRODUCTION

#### An Overview of Army Transformation

In October 1999, General Eric Shinseki, Chief of Staff of the United States Army (CSA), announced that the US Army would “transform” to a lighter, more rapidly deployable force. According to General Shinseki, the US Army’s current force was no longer relevant, due to issues of strategic deployability and tactical capability. In light of these discrepancies, he proposed the development of new forces to fill the void. The goal of this proposed “Transformation” was to develop forces capable of rapid strategic deployability, while retaining the necessary force structure to defeat virtually any enemy on any battlefield. As the US Army begins to build new units, force developers must analyze organizational models to ensure that they develop the most combat effective force possible, based on available resources. The US Army consists of what is now referred to as a “Legacy Force;” with a heavy force designed to fight and defeat the former Soviet Union on the plains of Northern Europe and a light force to fight “brush fire” wars in Central and South America. General Shinseki’s proposed force with enhanced strategic deployability would be capable, at least in theory, of filling the role of either heavy or light “Legacy Forces,” thus better able to respond to the changing operational requirements, based on the physical environment and future threats.

The Legacy heavy mechanized infantry and armor forces were designed and equipped to combat enemy armor in open terrain, with such advanced weapons as M1A1 Abrams main battle tanks (MBTs), Bradley fighting vehicles (BFVs), heavy artillery and



rockets, and sophisticated attack helicopters. Unfortunately, these forces lack the strategic deployability necessary to quickly react to a volatile, changing world situation. The heavy forces are just that: heavy. Once they arrive in theater, the heavy forces possess extraordinary capability for defeating an enemy armor-based force, but they are significantly less capable of defeating an enemy force organized around light infantry units or insurgent forces. On the other hand, the Legacy light infantry forces, although capable of rapid strategic deployment, have a limited capability against a broad range of enemy forces, primarily enemy armor, since the US Army designed these forces to defeat insurgents and enemy light infantry. Also, the light forces, due to limited vehicular assets, lack tactical mobility, and move about their assigned area of operations in much the same manner as the infantryman of World War II, by foot. Thus, the two primary Legacy Forces possess different capabilities and limitations, making them specialized, but neither has the well-rounded capabilities necessary to meet General Shinseki's vision.

In recent years, the US Army has attempted to reduce the limitations of each force by task organizing units with a mix of heavy and light forces. On the surface, this appears to be a solution, but problems persist. The issue of strategic deployability still delays the introduction of heavy forces in significant quantities (brigade-sized or greater) into a troubled region. Even with prepositioned equipment and assets for personnel to draw and use upon arrival into the theater, it still would take a week to ten days to have a viable heavy force on the ground. Although the light forces are capable of rapid strategic mobility upon their arrival, they would be alone, without support from the follow-on heavy force, and at the mercy of enemy tanks. Prior to the Persian Gulf War in 1990-1991, Operation Desert Shield illustrated the worst-case scenario: a US airborne division

facing numerous Iraqi armored and mechanized infantry divisions. This was a golden opportunity for Saddam Hussein to strike a significant blow against the United States, but instead he allowed US forces to build up over the following six months, causing his eventual defeat. It is safe to assume the potential enemies took note of this almost foolish inaction, and will not make a similar mistake. Thus, the heavy-light task organization still allows exploitation of each force's limitations for a period of time.

Due to these limitations the need for a new force arose. This force is initially embodied in the Interim Brigade Combat Teams (IBCTs), currently being formed at Fort Lewis, Washington. The IBCT will be rapidly deployable as an early entry force, expanding the foothold initially seized by the forced entry units (Rangers, airborne forces, or Marines). The goal is to develop a force that has all of the strengths of the heavy and light forces, while reducing the limitations associated with both. In essence, General Shinseki envisions a brigade-sized force capable of arriving in a troubled region within a matter of days and capable of defeating any enemy threat, heavy or light. This force also has the added advantage over the current light forces, in that it has protected tactical mobility, due to light armored vehicles. Although this vehicle is not a tank or an infantry-fighting vehicle (IFV), it provides the infantryman with a level of protection and tactical mobility unheard of for a light force. This force is similar to the light units in that it uses infantry as the decisive element. It is essentially developed and in the process of fielding; therefore, the ability to influence its force structure is limited. This study will not examine the IBCT in great detail, as it is a constantly evolving force.

The study next focuses on the "Objective Force," which the US Army plans to develop over the next ten to fifteen years. This force must be capable of defeating any

known or projected threat, in any environment, and will be the basic organization of the army. Due to global commitments, this force also needs to be capable of rapid strategic deployability, arriving in brigade strength in a threatened region within seventy-two to ninety-six hours. This force, along with all of its basic equipment, is currently under development.

Since the Army is in the initial stages of developing the Objective Force, the opportunity exists to develop the organization for maximum combat effectiveness. One must determine what one wants this organization and its subordinate units to do, and its optimum organization. Starting at the bottom, and working the way to the top, the infantry rifle squad becomes the focus of this study. Typically, the Army would need to conduct costly studies and research to determine optimum unit organizations, but, fortunately, past studies provide potential conclusions, which are still relevant today.

### Problem

The US Army is at the crossroads of change as it enters the twenty-first century, working to define what type forces will be relevant in the future. Regardless of talk about the waning importance of some branches within the US Army, history has shown that an infantry force will be relevant throughout the foreseeable future and that it is likely that this infantry force will remain central to US Army military operations.

Since the infantry rifle squad is the basic building block for platoons, companies, and eventually battalions, it is important to determine the optimum squad organization. Since the end of World War II, the US Army has been trying to gain and, once gained, maintain the optimal capability for its infantry rifle squad to conduct fire and maneuver. The organization of the rifle squad is defined by its size (number of infantrymen within

the unit) and composition (how the squad is organized for combat). The critical factor in designing the infantry squad of the future is to focus on what capability this organization must have. Currently, an opportunity exists to determine the optimal organization of the infantry rifle squad within the Objective Force. To determine the optimum organization for the infantry rifle squad, one must resolve the issue of what organization provides the squad the greatest capability for conducting fire and maneuver.

### Defining Terms

First, a rifle squad must be defined. In 1946, at the completion of World War II, combat leaders from the US military met by branch of service to discuss the conduct of the war. The 1946 Infantry Conference defined the rifle squad as “a group of enlisted men organized as a team; smallest tactical unit consisting of only as many men as a leader can direct easily on the field.”<sup>1</sup> The conference further “interpreted this definition to limit the size of the squad to the number of men one leader can personally control with voice or hand signals.”<sup>2</sup> The Army’s 1992 Field Manual (FM) 7-8 for the infantry rifle squad defines it in the following manner, “The most common rifle squad has nine soldiers. It fights as two fire teams. The squad has one squad leader, two fire team leaders, two automatic riflemen, two riflemen, and two grenadiers.”<sup>3</sup> Unfortunately, both definitions are limiting. The Infantry Conference’s definition, taken from the doctrine of the day, limits the squad to a single leader, while the current “definition” from the 1992 FM simply tells what is in a squad, not what it is. The author offers the following definition, the US Army infantry rifle squad is a small military unit that typically conducts operations as part of a larger force; the smallest unit capable of fire and maneuver. The capability of conducting fire and maneuver is essential to the definition

of the infantry rifle squad. The US Army has had this capability, in some form or another, since the 1950s; therefore, it must be viewed as a requirement.

Since 1956, US Army infantry rifle squads have been composed of a fire team system. A fire team is a subelement of a rifle squad, designed to allow the squad to conduct limited fire and maneuver. Typically, two fire teams form a rifle squad, with a single leader (the squad leader) controlling the movement and actions of both teams. The fire team is incapable of independent action, primarily due to its small size limiting its effectiveness and sustainability.

The fire team organization gives the infantry rifle squad the capability of fire and maneuver. To realize the importance of this capability, one must understand the concepts of “fire and movement” versus “fire and maneuver.” “Fire and movement,” often times referred to as marching or assault fire, requires that the squad engage the enemy as it assaults forward. Thus, as the members of the squad move forward, they are continually firing their weapons, typically from the hip. To provide adequate suppression of the enemy force requires that another unit (typically another squad within the platoon) engage the enemy from a stationary position, referred to as a support by fire position. On the other hand, “fire and maneuver” requires a minimum of two subelements, in which one element establishes a base of fire, while the other element assaults.<sup>4</sup> Thus, the squad is capable of providing its own suppression while assaulting with another portion of the squad.

Immediate post-World War II doctrine differed from today’s doctrine on the question of whether a squad is capable of fire and movement or fire and maneuver. If the squad is a group of soldiers led by one man, as the 1946 Infantry Conference saw it, then

it establishes a base of fire to suppress an enemy force while another squad moves, or it moves (using fire and movement) while another squad provides a base of fire; not both actions simultaneously. However, if a squad has two fire teams as current doctrine dictates, then they are dependent upon one another, as one fire team establishes a base of fire to overwatch the movement of the other fire team, allowing the squad to maneuver. The fire teams then switch roles to allow a continual bounding movement forward; thus, the squad conducts fire and maneuver. As one reviews the historical evolution of the infantry rifle squad since World War II, it becomes evident that this was considered an essential capability for the squad.

### Organization of the Study

This thesis documents the historical analysis of the development and evolution of the US Army infantry rifle squad over the last fifty years. It analyzes various squad organizations, relevant studies and research on squad organizations, and combat performance of these organizations. In reviewing past studies, one will see a tendency for force developers to focus on designing units for one of two reasons: optimal combat effectiveness or personnel issues. Trends become apparent as one reviews these types of studies. Typically, studies focusing on combat effectiveness recommended larger, more robust squads. While those studies focusing on personnel issues often sought to reduce squad size, thereby gaining personnel savings. This analysis concludes with a recommended squad organization, which, based on analysis of the strengths and weaknesses of past squad organizations, will provide optimum capability to the Objective Force rifle squad. This study will focus on combat effectiveness, not personnel issues.

Chapter 2 begins with analysis of the 1946 Infantry Conference, which provided the first modern definition of the infantry rifle squad. World War II proved to be the formative experience for modern infantry organizations. The conference recommended that the infantry rifle squad consist of nine men, organized with a squad leader, an assistant squad leader, an automatic rifleman (armed with a Browning automatic rifle [BAR]), an assistant gunner, and five riflemen. The assistant squad leader was seen to provide a limited capability for the squad to execute fire and maneuver, by allowing additional leadership for the squad and allowing for the formation of ad hoc “teams.”

The study next examines the performance of this squad organization during the Korean War and illustrates the initial steps Army leaders took to enhance the capability of fire and maneuver at the squad level. In 1956, the US Army changed the organization of the rifle squad significantly, adopting an eleven-man squad, composed of a squad leader and two five-man fire teams. Each fire team consisted of a fire team leader, an automatic rifleman, and three riflemen. This fire team composition formalized the capability of squad-level fire and maneuver and remains the accepted standard for the US Army infantry rifle squad to this day, although size continues to fluctuate.

Chapter 3 focuses on the infantry rifle squad in the Vietnam era. Changes during the early 1960s resulted from emerging weapons technologies, such as the M60 general-purpose machine gun (GPMG) and the M79 grenade launcher. In the early-1960s, the US Army continued to study the combat effectiveness of the infantry rifle squad. In 1964, the Reorganization of the Army Division (ROAD) Study, the army’s first organizational development study focused on personnel issues, reduced the rifle squad to ten soldiers, organized with a squad leader and two unbalanced fire teams.<sup>5</sup> This study

viewed the reduction of one soldier from each rifle squad as a personnel savings for the overall US Army force structure, made possible by increased weapons lethality. These changes of the early to mid-1960s reduced the squad's capability to conduct fire and maneuver, based on issues of sustainability. As a result of the desire to maintain the capability of fire and maneuver at squad level, the US Army conducted the *Infantry Rifle Unit Study 1970–1975 (IRUS 75)*. This study focused on combat effectiveness and recommended reverting to the eleven-man squad, organized around two balanced fire teams. This squad organization remained unchanged into the 1980s.

Chapter 4 examines changes to the infantry rifle squad since 1975. The major changes in the 1980s included the development of light infantry divisions and incorporation of the BFV into the US Army's mechanized infantry units. This chapter also examines the Division 86 Study and the Army of Excellence (AoE) Study. These organizational development studies focused more on personnel issues than on maintaining the squad's capabilities. The issue of standardization across the infantry force (heavy and light units) finally caused planners to settle on a nine-man infantry rifle squad, while keeping the fire team organization.

The nine-man Bradley infantry squad also included the three-man crew in that number. This caused the Bradley dismounted rifle "squad" to consist initially of only six men. This organizational change was driven primarily by the interior dimensions of the BFV, which limited the number of infantrymen who could actually fit inside the squad compartment. These reductions in squad size reduced the squad's capability to conduct fire and maneuver.



The 1990s did not yield significant changes or studies in light infantry squad organization, but instead the focus was on the mechanized infantry rifle squad. Due to changes in the seating plan in the rear of the BFV and changes to the Tables of Organization and Equipment (TOEs) directed by the Infantry School at Fort Benning, Georgia, the Bradley rifle squad size increased from six to nine men in the dismounted element of each squad. The final organizational changes of the 1990s resulted from the development of the IBCT, which exceed the scope of this study. Thus, over the last twenty-five years, one witnesses a decline in the capability of squad-level fire and maneuver due primarily to personnel constraints.

Chapter 5 concludes this study, with an analysis regarding the optimum size and composition of the recommended Objective Force infantry rifle squad. This recommended squad organization will be based on combat effectiveness, to provide the future squad with the maximum capability for squad-level fire and maneuver.

#### Terms of the Study

Next, one defines the terms of the study. As one attempts to determine the organization that will yield the optimal capability for fire and maneuver at the squad level, it is necessary to look to past organizations. These past organizations can illustrate the strengths and weaknesses of various squads, based on size and composition. The number of personnel assigned to the squad determines the size of a squad, while its composition is a function of the command and control system, either with fire teams or without, and the weapons mix (rifle, grenade launcher, and light machine gun and or automatic rifle) within the squad. To determine which organization best allows the optimal capability of fire and maneuver, it is necessary to apply evaluative criteria. In

developing these criteria, one, in essence, defines combat effectiveness. This study applies the following evaluative criteria: control, sustainability, flexibility, and lethality. These criteria are similar to ones used in the *Infantry Rifle Unit Study 1970-1975 (IRUS 75)*, conducted in the late 1960s and will assist in determining the combat effectiveness of the rifle squad.

Also, the evaluative criteria are defined. Control is defined as “the ease of direct personal supervision by the squad leader and by subordinate leaders over the firing, maneuvering, and movement of other squad members.”<sup>6</sup> Control is obviously affected by the size of the squad, often necessitating a change in composition to facilitate control. As the size of the squad increases, there is a greater need for subordinate leaders to assist in controlling the unit.

This study defines sustainability as “the ability of the squad or team to function as a fighting unit despite normal attrition.”<sup>7</sup> Size clearly affects sustainability, as greater numbers of soldiers allow the squad to continue to function as it takes casualties. Composition is perhaps a more significant issue, as the squad composed of fire teams may require significant reorganization, perhaps into a single tactical unit (without fire teams and losing the capability to conduct fire and maneuver), in the event of losses.

The size and composition of the squad also affect its flexibility, defined as the squad’s ability to perform a variety of missions. Based on the 2001 version of FM 3-0, *Operations*, all US Army units must be capable of “full spectrum operations,” meaning that they are capable of conducting offensive, defensive, stability, and support operations.<sup>8</sup> The most critical capability of the infantry rifle squad remains its ability to conduct fire and maneuver in any operation or environment.

Finally, the lethality of the squad is based upon its firepower and destructive potential. Firepower is a function of the squad's size and its mix of weapons. Fire teams are typically armed with a similar mix of weapons to provide complementary capabilities, allowing each to establish a base of fire or maneuver.

Although some of these criteria seem to be in direct conflict with one another, they remain relevant in determining the optimum rifle squad organization. On the surface, it seems that more is better, thus a larger squad would provide a greater capability for fire and maneuver. This larger squad may be more sustainable and lethal, but the issue of control hurts larger organizations. Likewise, the smaller squad is easier to control, but less sustainable and lethal. The goal of this study is to recommend an organization that is a compromise, offering the optimal capability for fire and maneuver.

A critical assumption of this study is that emerging, near-term (within the next twenty years) technologies will not significantly change the way a rifle squad conducts combat operations, thus the study analyzes the rifle squad based on today's weapons and technology, formulating conclusions for a future organization. Proponents of technology assert that advances in information technology (IT) will allow for the reduction of actual numbers of soldiers in a unit while increasing the lethality of the unit. Likewise, new weapons systems may make the individual soldier more lethal, but the rifle squad will continue to conduct fire and maneuver. In all probability, the basic weapons (rifle, grenade launcher, and light machine gun and or automatic rifle) within a rifle squad will not change significantly over the next fifteen years. While analyzing the squad weapons mix, the study must determine the optimal numbers of each of these basic weapons types within the squad. Since this study assumes limited changes in technology affecting the

squad over the next fifteen years, a historical analysis of the rifle squad organization will yield useful recommendations.

As one studies the evolution of the rifle squad since World War II, it becomes evident that the progress is evolutionary as opposed to revolutionary. General Shinseki's desire for a lighter, more deployable force has many similarities to concepts attempted during the early 1960s and throughout the 1980s. An in-depth analysis of these similarities exceeds the scope of this study and could distract the reader from the real goal of this study, to determine the optimum organization for the infantry rifle squad.

Finally, the study must recommend one rifle squad organization to meet the needs of all types of infantry. The current concept of "One Infantry" seeks to ensure commonality across the five types of infantry: light, mechanized, airborne, air assault, and ranger. One of the basic premises of this concept is to maintain one rifle squad organization throughout all five types of infantry. Each of these organizations has limiting factors, which affects the rifle squad's organization. The size of the mechanized infantry squad is constrained by the capability of the BFV to carry infantrymen. The light infantry forces (light, airborne, air assault, and ranger) are not constrained by vehicle dimensions as in the case of the mechanized forces, but may require changes in composition to increase the lethality of the squad, since it is not supported by a BFV. One must keep in mind the goal of developing a squad organization, which enables the rifle squad to conduct effective fire and maneuver. Also, any changes in squad organization will likely expand to include Legacy, Interim, and Objective forces. As this study analyzes the problem, one must examine each issue in greater detail.

Historical research methods are used to evaluate the thesis question. This technique allows for the observation of the evolution of the rifle squad from the end of World War II to the present, aiding the reader in determining the rationale for various changes. Initially, changes resulted from “testing” various squad organizations in a combat environment in an effort to allow the squad the ability to conduct fire and maneuver. Enhancing the squad’s capability of fire and maneuver was often the catalyst for change, resulting in research and development of an “improved” squad organization. Most past changes in squad organization focused on size or composition. One sees that, during the absence of protracted conflict, personnel reductions seem to become the driving force behind organizational change. As one tracks the historical evolution of the rifle squad, the optimum rifle squad organization can be clearly determined, using the evaluative criteria of control, sustainability, flexibility, and lethality.

### The Contemporary Operating Environment

First, it is essential to determine where one envisions employing the rifle squad and what type of threat exists on the world scene. Thus, the contemporary operating environment (COE) consists of the physical environment and the threat. Although professional journals and periodicals constantly refer to the changing operational environment, some things will remain constant, especially at the rifle squad level. A recent US Army study suggested, in fact, that the future environment would place even greater requirements on the infantry rifle squad:

In essence, the future battlespace will still be an arena in which carnage is the immediate result of hostilities between antagonists, and in which operational goals are attained or lost by the use of highly lethal force. The operational environment will remain a dirty, frightening, physically and emotionally draining environment in which death and destruction are the result of conflict. In fact, due

to the extremely high lethality of high-technology weapons systems and range of the application, destruction and loss of life will significantly increase, placing individual combatants at increased risk.<sup>9</sup>

### The Physical Environment

The physical environment is where the rifle squad will be employed. As previously discussed, during the Cold War, the United States structured its armed forces to fight and defeat the Soviet Army on the plains of Europe. US forces were equipped and organized to fight large enemy armored formations in relatively unrestricted terrain. US Army doctrine emphasized the mobile defense, avoiding urban areas, as they slowed an attack or often proved inescapable for the defender. Also, US weapons technologies of the late twentieth century were designed for the high mobility and long ranges characterized by many areas in Europe. Thus, the greatest change in the physical environment over the last fifty years is the increased urbanization of most societies, requiring the rifle squads to conduct operations within this deadly environment.

Rapid and ongoing urban expansion is occurring worldwide. In 1990, 270 cities contained over one million inhabitants, and twenty-one cities contained populations greater than eight million. By 2015 due to growing urbanization, estimates place those figures at 516 and 33, respectively.<sup>10</sup> Thus, due to the expansion of urban terrain, operations within this difficult environment will become more likely.

Military planners rightly view urban operations as resource intensive, as they require far greater expenditures in nearly every type of supply. Although urban operations require vast supplies, the asset in shortest supply is the infantryman. According to the US Army's Training and Doctrine Command (TRADOC), "operations in complex terrain and urban environments alter the basic nature of close combat.

Historical analysis illustrates that because of the close proximity of forces, engagements will be more frequent and occur more rapidly. They will be manpower intensive and less system centric.”<sup>11</sup> Casualties typically increase in the urban environment. This occurrence is not solely due to enemy contact, but also due to injuries sustained fighting within the urban area. Urban areas also expose soldiers to a greater likelihood of contracting disease and illness due to the civilian population and limited opportunities for adequate hygiene. Thus, the increasing likelihood of urban operations seems to dictate larger units.

Because of global increases in urbanization, the forces are far more likely to become embroiled in military operations in urban terrain (MOUT). This greater likelihood of combat in an urban environment will affect the future rifle squad’s organization.

### Threat Forces and Tactics

Next one must identify whom we will employ the rifle squad against. First, an analysis of the “old” threat is necessary, allowing military planners to determine generally how the US developed units to counter that threat. Next, these planners must attempt to determine what type of threat faces the rifle squad in the near future. Finally, whenever one analyzes a threat force, it is also necessary to review the doctrine and tactics that force employs to ensure that ones forces are capable of defeating the enemy.

The “old” threat consisted primarily of the forces of the Soviet Union and the Warsaw Pact. Warsaw Pact forces consisted of heavy armored formations, designed to quickly penetrate North Atlantic Treaty Organization (NATO) defenses, driving deep into their rear areas. US forces arrayed to counter the Warsaw Pact threat consisted

primarily of mechanized infantry and armor units, designed to conduct a mobile defense aimed at allowing a limited penetration, while defeating the enemy's exploitation force. These mobile forces were then to transition to the counterattack to defeat attacking second echelon forces and operational reserves.

Another "old" threat came about as a result of US commitments to friends and allies primarily in Southeast Asia and Central and South America. As a result of US involvement in the Vietnam War, military planners realized that an army designed to counter the Soviet threat in Western Europe had limited utility when fighting a counterinsurgency in jungle terrain. The counterinsurgency threat consisted of small unit organizations that often conducted decentralized, small-scale operations, such as raids and ambushes. Thus, the US Army developed light infantry forces capable of operating in severely restrictive terrain and designed to conduct small-scale, decentralized operations to counter an insurgent force. This "old" threat, faced from the 1950s through the 1990s, may more closely resemble the emerging threat that the squad will face today and in the near future.

It is essential to design the infantry rifle squad to meet an emerging threat that ranges from traditional conventional forces, both heavy and light, to guerrillas-insurgents to criminal-terrorist organizations, as this is the essence of the US Army's concept of "full spectrum operations." Each of these threats confronts US forces in a different and difficult manner, requiring forces capable of defeating a conventional threat (heavy or light) or an insurgency, or combating international terrorism or crime.

After determining the threat forces available, it is necessary to analyze the tactics employed by one's enemies. Some tactics will remain the same, such as those employed



by a conventional, heavy threat. A guerilla-insurgent force will likely attempt to continue to use small-scale, decentralized actions to limit the US force's ability to mass firepower against it.

In recent years, the concept of asymmetric warfare has come into vogue. Asymmetric tactics, simply defined, attack an enemy in a manner in which he is not prepared. It is a way of making things harder on one's opponent. Asymmetry is an unconventional or unexpected approach to a conventional problem, and is a likely tactic of an enemy force that cannot match the US military on more equal terms. Asymmetric tactics, coupled with an often more technologically advanced enemy, may place US forces at a distinct disadvantage over the next ten to fifteen years, but this is the nature of the operating environment of the future.

According to *Jane's* military analysts Kevin O'Brien and Joseph Nusbaum, asymmetry can be achieved through battlefield selection, "choosing a conflict environment, such as large cities or jungles, not conducive to conventional forces, would degrade the Western military's capacity to find and attack militarily significant targets."<sup>12</sup> This possible shift in enemy tactics also may require that the rifle squad conduct operations in an urban environment. Enemy forces and potential adversaries have numerous examples of the near invincibility of the US Army in open terrain.

After years of building an army capable of defeating a heavy armored threat in unrestricted terrain, the United States was able to clearly illustrate its dominance during the Gulf War in 1991. In the open deserts of Kuwait and Iraq, the US military and its coalition partners decisively defeated the Iraqi military. This victory was made possible by defense acquisitions of the 1980s in the form of M1A1 MBTs, M2 BFVs, heavy

artillery and rockets, and advanced attack helicopters. A military doctrine designed to defeat the massed Soviet armored formations in open terrain worked equally well against the Iraqi forces.

American forces followed this decisive victory with operations in Mogadishu, Somalia. During combat operations in Somalia in 1993, US forces were less able to bring all of their combat multipliers to bear. This was due to a variety of reasons, many of which related to the urban environment. In an urban area, with reduced ranges and fields of fire, US high technology weapons no longer gave them a decisive edge. The US military was unable to employ its advanced artillery and rockets, due to the close proximity of friendly forces and noncombatants and restrictive rules of engagement (ROE). Also US Cold War doctrine emphasized avoiding combat in urban areas due to the reduction in tempo and high resource requirements; thus, US forces lacked in-depth training and experience in urban combat. Potential adversaries of the US took note of these events, concluding that the US Army was less capable of fighting in an urban environment. Potential enemies of the US noted that a possibility existed to face US forces on a more equal footing, if combat were to occur in an urban environment.

Due to the changing operational environment, the infantry rifle squad must be prepared to conduct operations in any type of physical environment against a wide range of potential adversaries. The “Objective Force” concept requires one organization, capable of fighting in all environments, against any threat. As combat becomes more likely in an urban environment, issues of control and sustainability affect the infantry rifle squad. As one analyzes the various threats and the potential of asymmetric warfare, the

focus must shift to developing the future infantry rifle squad for combat effectiveness, not personnel issues.

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<sup>1</sup>The Infantry Conference, *Report of Committee "B" on Tactics and Technique* (Fort Benning, GA: The United States Army Infantry School, 1946), T-18, 3 (hereafter cited as *Report of Committee B*).

<sup>2</sup>*Ibid.*, 3.

<sup>3</sup>Department of the Army, FM 7-8, *Infantry Rifle Platoon and Squad* (Washington D.C.: Government Printing Office, 1992), A-4.

<sup>4</sup>Robert Dupree and Horace Homesly Jr., *A History of the United States Army Squads and Platoons, 1935-1967* (Fort Benning, GA: Combat Developments Command Infantry Agency, 1967), 39-40

<sup>5</sup>The concept of the unbalanced fire team entails one fire team consisting of four men, the other consisting of five men. This unbalancing potentially leads to the designation of the four-man team as the semi permanent base of fire, and the five-man team as the assault element. Thus, the teams lose their ability to perform either function, becoming specialized. These changes resulted from an attempt to reduce the size of units to allow for more rapid strategic response. For additional information regarding the ROAD changes, see pages 19 through 25, *Leavenworth Paper 1; The Evolution of US Army Tactical Doctrine, 1946-76*, by Major Robert A. Doughty.

<sup>6</sup>Dupree and Homesly, 90.

<sup>7</sup>*Ibid.*, 92.

<sup>8</sup>Department of the Army, FM 3-0, *Operations* (Washington, DC: Government Printing Office, 2001), 1-15.

<sup>9</sup>TRADOC, White Paper, *Future Operational and Threat Environment: A View of the World in 2015*, (Fort Monroe, VA: US Army Training and Doctrine Command, 12 April 2000), 12.

<sup>10</sup>"Concept for future military operations in urbanized terrain," *Marine Corps Gazette* 81, no. 10 (October 1997): A1.

<sup>11</sup>TRADOC, 15.

<sup>12</sup>Kevin O'Brien and Joseph Nusbaum, "Intelligence Gathering Asymmetric Threats-Part One" [article on-line]; available from [http://www.janes.com/security/regional\\_security/news/usscole/jir001012\\_1\\_n.shtml](http://www.janes.com/security/regional_security/news/usscole/jir001012_1_n.shtml); Internet; 5 December 2001, 2-3.

## CHAPTER 2

### THE KOREAN WAR ERA

At the end of World War II, the US Army began attempting to gain the capability to conduct squad-level fire and maneuver. The modern infantry rifle squad traces its roots to the end of World War II; thus, the analysis begins here. By the end of the war, the US had experienced three years of sustained ground combat, in two major theaters of war, against two very different enemies, and in nearly every type of environment, in terms of climate and terrain. In short, the US Army had learned about combat the hard way, through war. World War II convinced several forward thinking American military leaders that squad-level fire and maneuver was an essential element to future ground tactics.

At the end of the war, US Army leaders met at their specific branch schools to discuss the conduct of combat operations and to learn the lessons of their many successes and failures. The Infantry Conference occurred at Fort Benning, Georgia, and published its report in June 1946. Conference attendees formed into two committees, with each consisting of thirty to forty officers. These officers were primarily infantry field grade officers (major to colonel), with some representation from the armor corps, field artillery, air corps, and even an officer of the US Navy. Brigadier General Harlan N. Hartness chaired Committee A, while Major General James M. Gavin chaired Committee B. The committees analyzed separate issues. Committee A focused primarily on equipment issues, while Committee B analyzed organizational and doctrinal issues. The committee members were all combat veterans who had served with distinction at various levels of command, ranging from the squad and platoon level on up through the division level. In

evaluating the issues of importance to the infantry branch, the committees capitalized on the vast combat experience of the members, along with observations from outside sources, in an effort to determine the optimum force structure, doctrine, and tactics. The reports from the 1946 Infantry Conference recommended numerous changes to the infantry commandant.

As one of fourteen issues analyzed, Committee B asked “Is the organization of the infantry rifle squad satisfactory? If not, what changes are desired?”<sup>1</sup> Much as today, this question appears to have been a topic of hot debate. The question of squad organization yielded a “minority report,” a written opinion of dissenting members. This is important, as this is the only issue which yielded such a report. Also, the votes on these issues were very close, with the committee coming to a 60 percent--40 percent split on both questions.<sup>2</sup> Committee B initially recommended that the infantry change its rifle squad organization. The recommended squad organization consisted of nine men, organized with a squad leader, two scouts, an automatic rifleman (armed with a BAR) and an assistant gunner, and four “ordinary” riflemen (one with a rifle grenade attachment on his M-1 rifle and one serving as an ammunition bearer for the BAR).<sup>3</sup> This differed significantly from the twelve-man rifle squad of World War II. The World War II rifle squad consisted of three teams: Able Team, a scout element with two scouts; Baker Team, a fire element with an automatic rifleman, assistant gunner, and ammunition bearer; and finally Charlie Team, the maneuver element, consisting of five riflemen.<sup>4</sup> The squad leader and assistant squad leader rounded out the twelve-man infantry rifle squad of World War II (see figure 1).

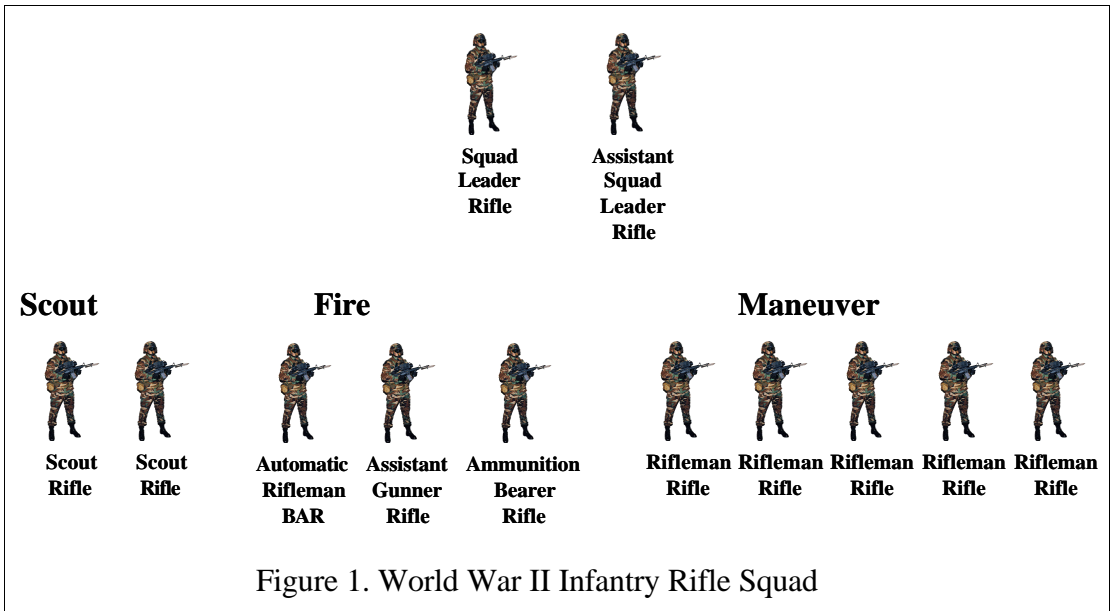


Figure 1. World War II Infantry Rifle Squad

The twelve-man infantry rifle squad of World War II had several weaknesses exposed during combat operations. First, it was determined that control of eleven men, even with an assistant squad leader, was beyond the capabilities of most squad leaders. Also, the squad leader was frequently pinned down by enemy fire, while moving forward with the two-man scout element, and unable to control the movement of the remainder of the squad. Thus, the members of Committee B saw fit to recommend changes to the organization.

Committee B supported its recommended organization based on two fundamental issues. First, the committee members interpreted the “current” doctrinal definition of a squad, taken from TM 22-205, *The Dictionary of United States Army Terms*, as limiting the organization to only as many men as could be controlled by one leader (as shown in Chapter One). This issue of control effectively limits the size of the squad, since Committee B determined that “one man, under favorable conditions, can control no more

than eight men in the field.”<sup>5</sup> Given the single leader, Committee B initially envisioned the infantry rifle squad being able to perform only one mission at a time: either establishing a base of fire or maneuvering, since to do both simultaneously would require subordinate leaders.<sup>6</sup>

Committee B stated as a fact bearing on the study “that squads in World War II seldom employed a base of fire and maneuver to advance.”<sup>7</sup> Even with the twelve-man squad formally organized into teams, the squad was seldom seen to employ fire and maneuver. In the estimation of the committee members, this capability (or lack thereof) did not limit the flexibility of the infantry rifle squad, since it was a capability that few believed could exist. In testimonials, written by three junior committee members, each having a great deal of platoon and company-level experience in the European theater of operations (ETO), the issue of squad leader capabilities surfaced as a justification why the squad should perform one task or the other. All three officers, a major and two captains, stated that the majority of the World War II squad leaders (especially as replacements began filling these positions) lacked the training and tactical capability to execute fire and maneuver at the squad level. The recommended rifle squad still maintained the capability to conduct fire and movement, or marching/assault fire only. Thus, the capability of fire and maneuver continued to elude the infantry rifle squad.

The “minority report” attached to Committee B’s findings agreed that the squad organization should be changed, but disagreed with the majority as to the optimum organization. The dissenting opinion focused on formalizing the issue of fire and maneuver below platoon level. Unlike the recommended nine-man infantry rifle squad envisioned by the majority of the committee, the minority recommended a seven-man

rifle squad. This recommended seven-man squad would consist of a squad leader, an assistant squad leader, and five riflemen (no mention of automatic riflemen). This squad would be capable of only establishing a base of fire or assaulting using fire and movement, but a section headquarters would control two squads, giving the capability of fire and maneuver.<sup>8</sup> The concept of a section headquarters was actually a step back in time to a similar organization that existed in the World War I era US infantry platoon.<sup>9</sup> Committee members that advocated the minority position envisioned a platoon having three sections consisting of two seven-man squads per section. This minority recommendation would actually increase platoon size by twelve men, but gave a significant increase in capability, with the section having a significantly greater force with which to conduct fire and maneuver.

By a very narrow margin (fifteen to twelve), Committee B recommended the nine-man rifle squad organization. This organization was subsequently amended to consist of a squad leader, an assistant squad leader, an automatic rifleman, and six “ordinary” riflemen (one of whom would serve as the assistant gunner for the BAR, while another served as the squad grenadier). The addition of the assistant squad leader gave the squad the limited capability to form ad hoc teams and conduct fire and maneuver, with the assistant squad leader controlling a base of fire element, while the squad leader maneuvered the remainder of the squad. This nine-man infantry rifle squad was the organization that the US Army took to battle in Korea (see figure 2).



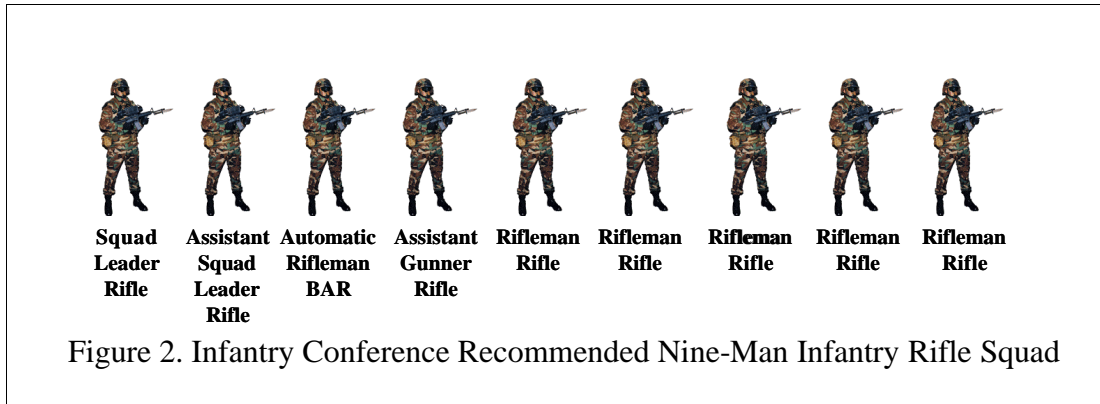


Figure 2. Infantry Conference Recommended Nine-Man Infantry Rifle Squad

### Rifle Squad Doctrine Prior to the Korean War

The members of Committee B envisioned the recommended nine-man infantry rifle squad conducting operations as part of a larger force. This squad would serve as a base of fire to overwatch the maneuver of another squad within the platoon, or the squad would maneuver while overwatched by another squad within the platoon. While the squad maneuvered, the squad leader would order his subordinates to conduct “fire and movement,” to increase the volume of fire directed at the enemy force upon which the squad advanced.

As early as 1949, US Army doctrine began to shift, requiring a limited fire and maneuver capability from the infantry rifle squad, even before the formal incorporation of the fire team organization. The assistant squad leader was seen to provide a limited capability for the squad to conduct fire and maneuver; thus, the squad could maneuver in cooperation with another squad or conduct limited internal fire and maneuver.

All nine men could be used as a single element for maneuver or frontal attack, or the squad could be split into fire and maneuver elements. In the latter case, four men could compose a covering party (assistant squad leader, automatic rifleman, assistant automatic rifleman, and one rifleman) and the five other men an assault party (the squad leader and the other four riflemen).<sup>10</sup>

Thus, prior to the outbreak of the Korean War, one sees the roots of the fire and maneuver capability at rifle squad level coming into US Army doctrine.

The United States entered the Korean War with the nine-man infantry rifle squad, recommended by Committee B during the 1946 Infantry Conference. The squad was seen primarily as having a single function; either establishing a base of fire or maneuvering, although a limited capability was evolving for fire and maneuver at the squad level. Typically, when the squad was moving, it conducted fire and movement to maintain a steady volume of fire against the enemy. As the war progressed, the desire on the part of senior army leaders to formalize the capability of squad-level fire and maneuver shaped the future rifle squad organization.

#### Squad Organizational Changes in the Korean War

The performance of the US Army during the Korean War goes far beyond the scope of this study. As the US Army conducted the Korean War, various changes in squad size and composition occurred in an effort to increase the combat effectiveness of the rifle squad and to enhance the squad's ability to conduct limited fire and maneuver. The two primary changes which came out of the Korean War were the addition of a second BAR to the rifle squad, which paved the way for the second fundamental change, the informal division of the squad into fire teams.

The addition of the second BAR to the squad increased the lethality of the rifle squad in several ways. First, the sheer volume of fire delivered by the BAR surpassed that of the rifle that it replaced. The BAR was capable of firing at a cyclic rate between 350 and 500 rounds per minute, providing the squad with an enhanced ability to suppress an enemy force. Not only was the volume of fire increased by the automatic fire

capability of the BAR, but its psychological effect also enhanced the effectiveness of the squad.

A strong advocate of the additional BAR was Brigadier General S. L. A. Marshall, a forward-thinking military historian. Although many of Marshall's findings regarding combat behavior have come into question in recent years, one must understand that during the 1950s and early 1960s his recommendations carried great weight with the senior army leadership. Marshall argued, presumably based on his alleged analysis of post-combat interviews during World War II, that the majority of infantry soldiers rarely fired their individual weapons. According to Marshall, "The best showing that could be made by the most spirited and aggressive companies was that one man in four had made at least some use of his fire power."<sup>11</sup> Marshall also noted, "Usually the men with heavier weapons, such as the BAR, flamethrower or bazooka, gave a pretty good account of themselves, which of course is just another way of saying that the majority of the men who were present and armed but would not fight were riflemen."<sup>12</sup>

Thus, the addition of a second BAR not only provided a weapon with the capability of a greater volume of fire, but also a weapon more likely to be fired than the standard M1 rifle. Marshall had a great affinity for the BAR, believing it to be one of the best weapons of the Korean War. "In Korean infantry operations, it is conspicuous that rifle firing builds up strongly around the BAR. It is therefore reasonable to believe an increase in the ratio of BARs to rifles would stimulate stronger M1 fire within the squad."<sup>13</sup> Therefore the addition of a second BAR greatly increased the lethality of the infantry rifle squad between 1952 and 1953. This organizational change also set the stage for further change.

The addition of the second BAR paved the way for a more fundamental and far-reaching change: the informal division of the infantry rifle squad into fire teams, as it provided a BAR to each team, thus allowing them to bound forward while maneuvering. The team concept gave the infantry rifle squad the ability to conduct fire and maneuver, as opposed to this significant capability beginning at the platoon level. This concept could be maximized only when each team had the capability to provide a base of fire or maneuver. By having two BARs within the squad, the informal teams were now capable of performing either role, establishing a base of fire or maneuvering. No longer would teams need to be specialized, as a “fire” team or a “maneuver” team, based upon the placement of the single BAR.

Marshall was also a strong advocate of the fire team within the squad. Although the nine-man squad without fire teams appeared to be performing well in combat in Korea, Marshall believed that a change was necessary. He felt that this fire team composition would benefit the squad in many ways.

Marshall believed the addition of fire team leaders would increase the battlefield participation of the fire team members, as another leader would exist to exhort men to fire their weapons. Marshall recommended a nine-man squad organization consisting of a squad leader and two fire teams. Each fire team would consist of a team leader, an automatic rifleman (armed with a BAR), and two additional riflemen, one of whom would serve as a hand grenadier. Marshall obviously envisioned the balanced fire teams allowing fire and maneuver in the sense that it is understood in current doctrine, with teams able to switch roles easily and bound forward.

Additionally, Marshall viewed the addition of the fire team leader position as a training ground for developing future squad leaders from a pool of inexperienced soldiers. Finally, Marshall believed that the fire teams would provide a self-contained small unit for a more organized execution of typical duties, such as outposts. Thus, Marshall envisioned additional benefits resulting from the formalization of fire team organizations within the rifle squad, above simply providing for squad-level fire and maneuver.

While changing the composition of the squad, Marshall also sought to fix less apparent problems. The designation of a soldier in each team as a hand grenadier was designed to alleviate a discrepancy noted during defensive operations in Korea. It appears that in the defense, all riflemen within the squad employed hand grenades and were unable to quickly shift to using their rifles. Marshall believed that if two of the four riflemen per squad were designated hand grenadiers, this would alleviate the difficulties noted in transitioning to the rifle.<sup>14</sup> Thus, Marshall, with his significant influence over the upper echelons of the US Army leadership, became an early and strong proponent for the infantry rifle squad composed of fire teams.

As one examines the issue of fire and maneuver and the development of the fire team within the squad, it becomes clear that, although this was a relatively new concept at squad level, it had been a basic function for units above the squad. According to military analyst John English, in *On Infantry*, the concept of the fire team had its beginnings in World War II, in an attempt to give the rifle squad the capability to conduct fire and maneuver similar to the capability provided by the sections of World War I. These sections controlled squads; thus they had the capability of fire and maneuver.

English states that “some like Colonel J. C. Fry’s 350th Infantry of the Seventy-seventh Division in Italy, employed an assault battle drill for squads (divided simply into fire teams and maneuver teams) and platoons; the fire and maneuver stressed, however had a definitely frontal bias up to and including platoon level.”<sup>15</sup> Since initially Colonel Fry created ad hoc task organizations, his units were able to conduct a limited battle drill, with one team (the “fire team” primarily consisting of BARs) providing a base of fire to facilitate the maneuver of the second team (the “maneuver team”). This ad hoc organization allowed only very limited capability for these teams to reverse roles and bound forward by teams.

In 1955, then Major General J. C. Fry published *Assault Battle Drill*, capturing the basic concepts of his squad and platoon-level fire and maneuver drill. *Assault Battle Drill* still limited the effectiveness of squad-level fire and maneuver by designating a “fire team” and a “maneuver team,” allowing these teams only limited capability to perform the alternate task. Fry did not envision the “fire team” remaining in one location throughout the assault, but instead envisioned it advancing on the enemy position while continuing to provide a base of fire for the “maneuver team.”<sup>16</sup> On the other hand, the “maneuver team” was seen to advance on the enemy using a covered and concealed route, alternate individual rushes, or even crawling to close with the enemy force and conduct the assault, all the while overwatched by the “fire team.”<sup>17</sup> Although compared to the current capabilities of a rifle squad organized with balanced fire teams, this organization appears unwieldy and inflexible, *Assault Battle Drill* provided a significant capability at the close of the Korean War. As the organization shifted toward the designation of fire teams within the rifle squad, it is important to note that by the end of

the Korean War, the US Army nine-man infantry rifle squad was still formally organized to fight as a single entity, with only a limited capability for fire and maneuver.

### Preliminary Studies of the Mid-1950s

Following the end of the Korean War, several lesser-known studies were conducted to analyze concepts coming out of the recent war. Operation Falcon and Exercises Follow Me and Sagebrush occurred from 1953 through 1955, analyzing different squad organizations, attempting to discern the most combat effective organization.

Operation Falcon, in 1953, and Exercise Follow Me, from 1954 through 1955, both tested squads composed without fire teams. Operation Falcon, conducted by 18th Airborne Corps, analyzed an eleven-man squad composed of a squad leader, an assistant squad leader, two automatic riflemen, two assistant automatic riflemen, and five “ordinary” riflemen. The results from Operation FALCON indicated that the eleven-man squad was satisfactory, based on the squad leader’s ability to control the squad and the additional BAR, while still maneuvering the squad. The Infantry School at Fort Benning questioned these results, continuing to hold to the 1946 Infantry Conference definition of the infantry rifle squad as being led by only one man.<sup>18</sup>

Exercise Follow Me went to the opposite end of the spectrum, evaluating a seven-man infantry rifle squad. This test seemed to flow out of the Infantry School’s disagreement with the findings of Operation Falcon. The infantry rifle squad analyzed during Exercise Follow Me was composed of a squad leader, an automatic rifleman, an assistant automatic rifleman, and four “ordinary” riflemen. Notably absent was the assistant squad leader, under the belief that such a small squad would not require an

additional leader. This composition all but assured that the squad would be capable of only a single action, either fire or maneuver. This seven-man squad was compared to the current nine-man squad, composed without fire teams. The results favored the current nine-man squad based on its additional firepower provided by the addition of the second BAR during the Korean War. Also, a reduction in control was noted as a result of the omission of the assistant squad leader.<sup>19</sup> None of the recommendations of Operation Falcon or Exercise Follow Me were instituted within the rifle squad of the 1950s. These studies did, however, set the stage for the next major analysis of America's war-fighting capability.

Exercise Sagebrush was a joint exercise between the US Army and the US Air Force, which focused on how to fight the next war, envisioned as a conflict in Western Europe against the Soviet Union and the newly formed Warsaw Pact. This test envisioned a "dirty" battlefield due to the use of nuclear, biological, or chemical weapons. Although the test focused on many larger concepts, evaluators also reviewed the infantry rifle squad organization. The 3d Infantry Division provided the majority of the forces for this test and analyzed the size and composition of the rifle squad, to ensure that the current organization was relevant for the anticipated battlefield of the future. The exercise reports stated "the 3d Infantry Division report from this exercise concluded that the nine-man squad was too large for one man to control and too small to be broken into subdivisions."<sup>20</sup> The 3d Infantry Division report instead recommended a triangular organization, similar to the US Marine Corps' squad, while being slightly reminiscent of the World War II era US Army rifle squad.<sup>21</sup> The Exercise Sagebrush-recommended rifle squad consisted of twelve men, organized with a squad leader, an assistant squad leader,



a four-man fire team (consisting of two automatic riflemen and two riflemen), and two maneuver teams (consisting of three riflemen each). The report explained that the assistant squad leader would direct the fire team as it established a base of fire, while the squad leader would control the maneuver teams, directing the assault.<sup>22</sup> As with the recommendations of Operation Falcon and Exercise Follow Me, these recommendations had virtually no impact on the US Army.<sup>23</sup>

Although the recommendations of Operation Falcon and Exercises Follow Me and Sagebrush were not acted upon, they illustrate the growing desire for change in the organization of the infantry rifle squad. By the mid-1950s, across the Army the basic infantry squad organization recommended by the 1946 Infantry Conference was being viewed as no longer adequate. The concept of fire and maneuver seems to have captured the imagination of senior infantry leaders, causing them to attempt to develop an organization that allowed them to fully realize this capability. This attempt to gain a capability led to the study that forever changed the composition of the infantry rifle squad.

#### A Research Study of Infantry Rifle Squad TOE (1956)

In 1956, Headquarters, Continental Army Command (CONARC), ordered a study to determine the optimum organization of the infantry rifle squad. The US Army's recent experiences in the Korean War actually showed considerable success for the infantry rifle squad. Although the history of the Korean War is filled with examples of poor training and preparedness, the basic combat effectiveness of the infantry rifle squad organization received high marks. Several factors appear to have prompted the CONARC commander to order the evaluation of the basic squad organization.

First, the evolving concept of fire and maneuver coming out of the Korean War seems to have led many to believe that the time had come to formalize the organizational breakdown of the rifle squad to fully facilitate this capability. US Army Generals J. C. Fry and S. L. A. Marshall continued to lobby for the formal organization of fire teams within the rifle squad. Fry saw the formal organization as enhancing the capability of the rifle squad to execute fire and maneuver through the formation of balanced teams, each equally capable of establishing a base of fire or maneuvering. Marshall seemed to be still trying to solve the issue of limited volume of fire from infantry organizations. According to the Infantry School at Fort Benning, individual firing among infantrymen had already risen during the war, with actions in Korea resulting in 25 to 35 percent of most units taking an active, firing role in the battle.<sup>24</sup> Nonetheless, Marshall still continued to believe that the additional leadership inherent in a rifle squad composed of fire teams was necessary and would significantly increase the squad's volume of fire.

Secondly, many within the Army appear to have been fascinated with the US Marine Corps' thirteen-man infantry rifle squad, organized with three fire teams, each consisting of four men (team leader, automatic rifleman, assistant automatic rifleman, and grenadier).<sup>25</sup> Many believed that a similar organization would provide US Army rifle squads with significant increases in their capability to conduct fire and maneuver. Thus, CONARC's Combat Developments Section ordered the Combat Operations Research Group (CORG) to study rifle squad TOEs in an effort to recommend the optimum organization for combat effectiveness.

Out of the CORG study came *A Research Study of Infantry Rifle Squad TOE (1956)*, commonly referred to as *ASIRS*. This study focused on three primary areas:

command structure, squad size, and weapons assignment.<sup>26</sup> The question of command structure focused on the “basic brick” command structure, in which a unit consisted of only the forces controlled by one man. As the study was initially envisioned, the basic brick was a squad controlled by one leader; thus it lacked any “team” organization. CONARC requested an eleven-man squad, organized with a squad leader and two balanced five-man teams, also be evaluated and tested against the basic bricks. With the addition of the eleven-man squad, composed of teams, the term basic brick now applied also to the team, based on the requirement to be controlled by one man. Size was seen as a function of controllability, limiting the basic bricks (either “squads” or “teams”) to between four and eight men, including the leader.

The final area studied was an attempt to determine the optimal mix of automatic weapons to rifles within the squad organization. Since the study occurred in 1956, the basic weapons used were the BAR and the M1 Garand, with organizations ranging from no BARs within the squad to up to one-half of the squad armed with BARs.<sup>27</sup> Using these criteria, the CORG team analyzed ten different rifle squad TOEs in an effort to determine the optimum size and composition. The eleven-man squad, organized with teams, provided the only actual difference in command structure between any of the squads, with the rest of the squads organized as a single entity, without fire teams. Thus, the results of ASIRS focused on size of the basic brick and its weapons assignment, yielding important results in these two areas.

As stated, the size of the basic brick affected control. The ASIRS study evaluated basic bricks ranging from four to eight personnel, yielding leader-to-led ratios from one to three up to one to seven. The CORG team found no differences in the ability to

control the basic bricks in open terrain, but in more restrictive terrain, or when executing more demanding tactical requirements, the ability to control the unit decreased sharply when the leader-to-led ratio increased above one to five. Thus, the ASIRS study recommended a maximum ratio of leader to led as one to five. This seems to contradict combat performance of the Korean War rifle squad, until one factors in the contribution of the assistant squad leader, who likely assisted with controlling the squad.

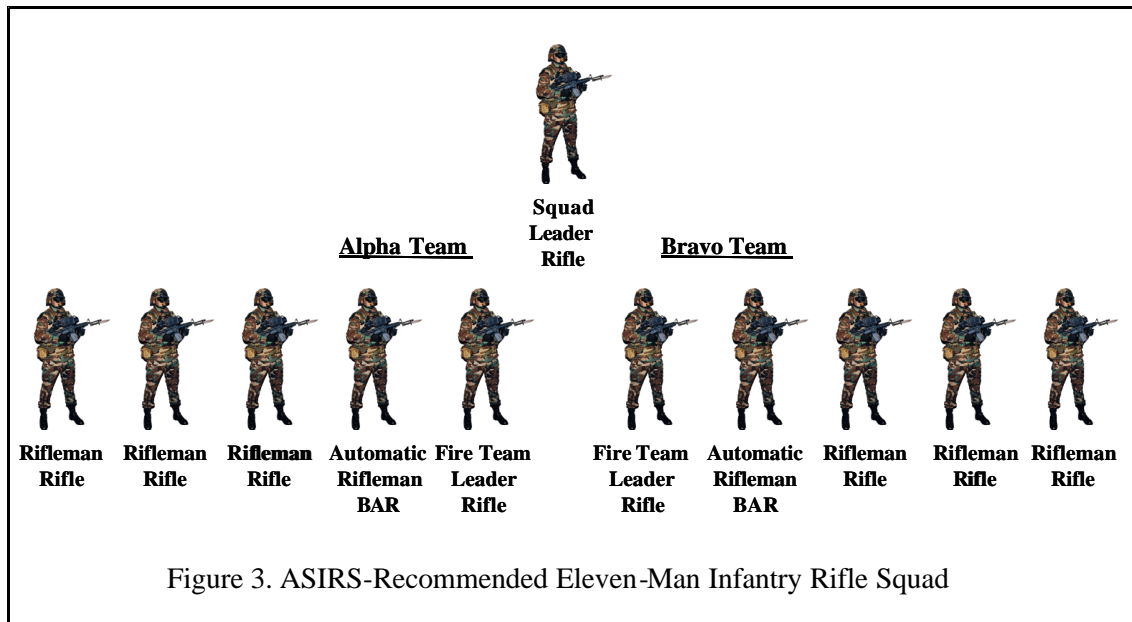
As stated, the criteria of weapons assignment sought to determine the optimum mix of automatic weapons (BARs) to rifles (M1 Garands). Weapons assignments ranged from no automatic weapons (Group 1), to an organization with less than one-third of the basic brick armed with automatic weapons (Group 2), and finally an organization comprised of one-third to one-half of the basic brick armed with automatic weapons (Group 3). The effectiveness of these groups was judged in the offense and defense, using criteria of total hits per firer, volume per firer, accuracy, and, finally, distribution of fires against the enemy area. Group 1, consisting solely of rifles, fared best in terms of accuracy (in both offense and defense), but suffered from an inability to place a high volume of fire against an enemy force. Group 3, with its high ratio of automatic weapons, was obviously superior in placing a high volume of fire against an enemy force, also allowing for maximum hits and distribution of fire. Group 3 also suffered from a heavy logistics burden, supplying ammunition to a large number of automatic weapons. Finally a high ratio of automatic weapons to rifles also reduced the effectiveness of an assault on an enemy position, due to a lack of riflemen to clear enemy positions. The CORG team determined that accuracy, a high volume of fire, and weight in the assault are important to the rifle squad, thus recommending that the ratio not exceed one-third

automatic weapons within a basic brick (Group 2) and that automatic weapons be allocated in pairs, due to an increase in accuracy and total hits per firer.<sup>28</sup>

Based on the results of the analysis of size and its resulting effect on controllability of the basic brick, the CORG team determined that a five-to-six-man “squad” was too small to have the desired effect on the battlefield, but that if this basic brick became a “team” within a squad, it would provide excellent capability to the unit. Since CONARC inserted the eleven-man squad, organized with teams, into the evaluation, the CORG team could use data gained from evaluating Basic Bricks to rate the combat effectiveness of this larger squad. The Basic Bricks then became the teams within the squad. The issue of controllability from the squad perspective allowed the squad leader to, in essence, “control” only the two team leaders. All that remained from a size perspective was to insure that the teams remained controllable, thus maintaining a leader-to-led ratio less than or equal to one to five. This stipulation limited the number of personnel on a team to no greater than six men.

The eleven-man rifle squad, composed of two fire teams consisting of five infantrymen per team, seemed to provide the optimum organization based on the ASIRS evaluation criteria. Thus in 1956, the ASIRS study recommended the adoption of the eleven-man squad, giving birth to the formal fire team organization within the US Army infantry rifle squad (see figure 3).<sup>29</sup> The squad consisted of a squad leader and two balanced fire teams. Each fire team consisted of a team leader, an automatic rifleman, and three riflemen. At the team level, the leader-to-led ratio of one to four was within the recommended parameters to provide acceptable controllability. The issue of weapons assignment kept the automatic weapons-to-rifle ratio below one-third and allowed for the

“pairing” of these weapons at the squad level. This was acceptable, since the teams were to be employed in concert. Thus, the ASIRS study ushered in a larger squad, with an organization designed to give the squad leader the capability to conduct fire and maneuver.



The organization recommended in the ASIRS study became the rifle squad of the Reorganization of Current Infantry Division (ROCID), also referred to as the Pentomic Reorganization.<sup>30</sup> This basic rifle squad composition, based on two fire teams, remains current, even today, giving the squad a significant capability to conduct fire and maneuver. Once gained, the capability for squad-level fire and maneuver needed only to be maintained during any future changes in squad size and composition.

<sup>1</sup>The Infantry Conference, *Report of Committee "B" on Tactics and Technique* (Fort Benning, GA: The United States Army Infantry School, 1946), T-18, 3.

<sup>2</sup>*Ibid.*, T-18, 2.

<sup>3</sup>*Ibid.*, T-18, 6.

<sup>4</sup>Robert Dupree and Horace Homesly, Jr., *A History of the United States Army Squads and Platoons, 1935–1967* (Fort Benning, GA: Combat Developments Command Infantry Agency, 1967), 16.

<sup>5</sup>The Infantry Conference, *Report of Committee B*, T-18, 5.

<sup>6</sup>*Ibid.*

<sup>7</sup>*Ibid.*, T-18, 4.

<sup>8</sup>In this case, the section headquarters was an additional level of command inserted into the platoon to give the capability of fire and maneuver below platoon level. The section leader would control the two small squads, each with the capability to establish a base of fire or maneuver. Thus, the section would be able to bound forward.

<sup>9</sup>Virgil Ney, *Organization and Equipment of the Infantry Rifle Squad: From Valley Forge to ROAD* (Fort Belvoir, VA: The United States Army Combat Developments Command, 1965), 32.

<sup>10</sup>Dupree and Homesly, 40-41.

<sup>11</sup>S. L. A. Marshall, *Men Against Fire* (Alexandria, VA: Byrrd Enterprises, Inc., 1947), 54.

<sup>12</sup>*Ibid.*, 57.

<sup>13</sup>S. L. A. Marshall, *Commentary on Infantry Operations and Weapons Usage in Korea, Winter 1950-51* (Chevy Chase, MD: Operations Research Office, 1951), 54.

<sup>14</sup>Dupree and Homesly, 48-49.

<sup>15</sup>John English, *On Infantry* (New York: Praeger, 1981), 134.

<sup>16</sup>J. C. Fry, *Assault Battle Drill* (Harrisburg, PA: The Military Service Publishing Company, 1955), 54.

<sup>17</sup>*Ibid.*, 54-59.

<sup>18</sup>Dupree and Homesly, 63-64.

<sup>19</sup>Ibid., 64.

<sup>20</sup>Ibid., 65.

<sup>21</sup>The USMC infantry rifle squad consisted of thirteen men. The squad consisted of a leader, and three fire teams. The fire teams each consisted of a fire team leader, an automatic rifleman, an assistant gunner, and a grenadier.

<sup>22</sup>Ibid., 65

<sup>23</sup>These exercises were primarily unit-planned and executed studies and do not seem to have had the same impact as studies directed by the Continental Army Command (CONARC). Thus, their recommendations do not have great impact on the squad organization debate.

<sup>24</sup>The Infantry School, *Lessons from Korea 1954* (Fort Benning, GA: The United States Army Infantry School, 1954), 9.

<sup>25</sup>Dupree and Homesly, 56-57.

<sup>26</sup>Dean Havron, et. al., *A Research Study of the Infantry Rifle Squad TOE* (Fort Monroe, VA: Headquarters, Continental Army Command, 1956), 1.

<sup>27</sup>Ibid., 2-4.

<sup>28</sup>Ibid., 6-8.

<sup>29</sup>Ibid., 14.

<sup>30</sup>Dupree and Homesly, 67.



## CHAPTER 3

### THE VIETNAM ERA

The Reorganization of Current Infantry Division (ROCID) rifle squad, introduced in late 1956, finally provided a formal organization for the squad which allowed squad-level fire and maneuver. Thus, the US Army had finally gained this much sought after capability; now senior leaders sought to perfect and maintain this capability.

The ROCID organization carried the US Army infantry into the early 1960s. That basic rifle squad composition, based on fire teams, remains consistent even today. Change during the Vietnam era focused primarily on the issue of size, attempting to determine the optimum size of the squad to best facilitate fire and maneuver. Thus, the changes of the Vietnam era were minimal, but nonetheless significant, since a lack of change may be interpreted as a vote of confidence in the squad organization recommended by the ASIRS study.

As the US became more embroiled in the Vietnam War, military leaders once again conducted studies to determine the combat effectiveness of the infantry rifle squad. Much like during World War II, the Vietnam War provided the US Army an excellent source of combat experience and data upon which to judge the combat effectiveness of its units. Units were actually conducting fire and maneuver in a combat environment, with squads composed of formally organized fire teams. All that was needed was to harness this vast experience by gathering the data that would allow military leaders to analyze these organizations and their capability based upon actual combat performance. This analysis ultimately resulted in the rifle squad that carried the infantry through the dark years following the Vietnam War and into the early 1980s.

## Towards the Reorganization Objective Army Division (ROAD)

In the early-1960s, the US Army was destined for change. Although threat from the Soviet Union and Warsaw Pact loomed ever present in Europe, commitments to allies in Southeast Asia began to draw the attention of American political and military leaders. While the Korean War was primarily fought with weapons left over from World War II, during the late 1950s and early 1960s, weapons technology was advancing. This new focus, away from a Central European war, and the development of better weapons caused American military leaders to reevaluate various military organizations. These were the beginnings of the ROAD changes in organization that occurred from 1960 through 1964.

### The Optimum Composition of the Rifle Squad and Platoon

In mid-1961, prior to the initial ROAD changes, CONARC again directed a study, *The Optimum Composition of the Rifle Squad and Platoon (OCRSP)*, to determine the most combat effective infantry rifle squad organization. Instead of focusing on improving the squad-level fire and maneuver capability, the OCRSP study focused on emerging weapons technologies, thought to be available by the late 1960s. This study attempted to discern if improved weapons systems necessitated or allowed changes in the infantry rifle squad size and composition. By this time, many military leaders believed the question of composition to be a dead issue, being completely satisfied with the concept of fire teams.

The Combat Development Experimentation Center (CDEC) of Fort Ord, California, organized and conducted the OCRSP test, which occurred at Hunter-Liggett Military Reservation, California. The primary focus was on the addition of the M14 rifle and the M60 GPMG as replacements for the M1 Garand and the BAR, respectively. As

the M14 rifle had select-fire capability (capable of both automatic and semiautomatic fire), some infantry leaders also viewed it as a potential replacement for both the M1 Garand and the BAR. They believed that the select-fire version of the M14, equipped with a bipod, could easily fill the void left by the removal of the BAR from the Army's inventory in the early 1960s.

The OCRSP study initially analyzed six basic squad organizations. Platoons consisted of two similarly organized squads (the primary differences being composition, size, and number of machine guns), allowing the evaluators to conduct a competition between the two, and select the best organization from each platoon. The next phase of the competition pitted the three platoons, composed of three squads organized with their best squad organization, against one another in an attempt to further discern the optimum squad organization.

The evaluators organized the three platoons based on composition (fire team or single entity), number of machine guns within the squad and overall size of the squad (see table 1). Platoon A consisted of rifle squads, composed of fire teams, but lacking machine guns of any type. Two different sized squads existed within Platoon A, one (A1) having nine men (squad leader with two four man fire teams), while another (A2) consisted of eleven men (squad leader with two five man fire teams). Platoon B consisted of rifle squads, which lacked the fire team composition. Similar to Platoon A, two different sized squads existed within Platoon B, one (B1) having eight men, while the other (B2) had ten men. Based on the initial failure of Squads B1 and B2 in the squad-level evaluations, in order to have three squads competing in the subsequent evaluation, researchers were forced to develop a third organization (B3), consisting of a nine-man

squad, composed of two four-man fire teams, and having one organic M60 GPMG (in essence a heavy team and a light team configuration). Finally, a third platoon, Platoon C, consisted of two eleven-man rifle squads, each composed of fire teams, but one (C1) squad having two M60 GPMGs (in other words, containing balanced fire teams) and the other (C2) having only one M60 GPMG (again a heavy and light fire team configuration). Comparison of these units allowed the evaluators to determine advantages and disadvantages of various units based on size and composition.<sup>1</sup>

Table 1.OCRSP Unit Comparison

	Platoon A		Platoon B			Platoon C	
	Squad A1	Squad A2	Squad B1	Squad B2	Squad B3	Squad C1	Squad C2
Size of Squad	9	11	8	10	9	11	11
Fire Teams?	Yes	Yes	No	No	Yes	Yes	Yes
Size of Fire Teams	4	5	N/A	N/A	4	5	5
Number of Machine Guns	0	0	0	0	1	2	1

The OCRSP study initially confirmed the continued validity of the fire team composition, first formalized in the ROCID squad as a result of the ASIRS study. The evaluators focused on the squad's enhanced capability to conduct fire and maneuver, when organized with fire teams. Foremost, this fire team composition was seen to increase the squad leader's control over his squad, due to the addition of the two fire teams leaders. In the case of Platoon B, the lack of fire teams forced the development of

a third squad organization, due to the abject failure in the preliminary evaluations of the B1 and B2 Squads. This failure resulted primarily from a lack of control on the part of the squad leader when attempting to lead the squad as a single entity. In this case, “the squad leaders were forced to control directly a portion of the squad personnel and at the same time control the actions of a separate group under the direct control of the assistant squad leader.”<sup>2</sup> Thus, the fire team composition was seen to allow the squad leader to concentrate on decision-making and orders, as opposed to actually leading half of the squad.

Since the advent of J. C. Fry’s *Assault Battle Drill* and the formalization of the fire team in the squad composition, squad-level battle drills had become more refined. The ability to quickly execute a battle drill at the squad level gave the squad a greater likelihood of reacting more quickly than an enemy, thereby increasing the squad’s chances of victory.

One unexpected advantage gained from the incorporation of the fire team was that it encouraged squad leaders to array their forces in more sound tactical distributions during defensive operations. When the squad consisted of a single entity, most squad leaders arrayed their forces in a linear pattern with little thought to depth or using the strength of the terrain to enhance his defense. Once the squad was composed of two mutually supporting teams, squad leaders began to deploy their forces in depth, using interlocking fields of fire.<sup>3</sup>

The OCRSP study also identified a weakness in the squad composed of fire teams, which haunts the infantry rifle squad to this day. The issue of sustainability is critical to the rifle squad. The fire team composition requires a ten-to-twelve-man squad

(not counting the squad leader), allowing the fire team system to continue to operate after suffering casualties.

The OCRSP Study determined that the squad would be forced to reorganize if losses reduced the squad below seven or eight men. Thus, if the squad did not begin operations with ten to twelve personnel, first contact would likely force the squad leader to quickly reorganize his force into a single entity, capable only of establishing a base of fire or maneuvering, not both actions simultaneously.<sup>4</sup> As a result, within five years of its formal introduction, the fire team organization and the concept of squad-level fire and maneuver had gained the confidence of the vast majority of infantry leaders, as evidenced by the OCRSP's glowing endorsement.

The initial squad evaluations determined the optimum squad organization in each platoon, allowing the transition to the comparison of the best squad organizations from each platoon. A more detailed analysis of these conclusions yielded several important points regarding the optimum infantry rifle squad organization for fire and maneuver.

The squads from Platoon A, without organic machine guns, lacked the firepower to provide good target coverage and volume of fire, denoting a lack of lethality. The A1 Squad, with its nine men organized into two four-man fire teams, was seen to lack sustainability based on limited casualties, forcing reorganization of the squad into a single entity after only one or two casualties. The A2 Squad was seen as more sustainable and lethal, due to its slightly larger size, thus winning the competition within Platoon A.

As previously noted, the initial Platoon B organizations had to be supplemented by a third squad, due to the early failure of squads lacking the fire team composition to

effectively conduct fire and maneuver. The B3 Squad “permitted further evaluation of a squad with one machine gun.”<sup>5</sup> The B3 Squad’s imbalance in fire team composition (heavy and light teams based upon the addition of the single M60 GPMG) was further exacerbated by the addition of another rifleman to the “light” fire team in an effort to make up for the difference in firepower between the two teams. As the squads entered the next phase of the competition, the B3 Squad consisted of a ten-man squad, composed of two imbalanced fire teams. One team consisted of a fire team leader, a machine gunner (armed with an M60 GPMG) and an assistant gunner, and a rifleman. The other team consisted of a fire team leader and four riflemen.

Within Platoon C, the C1 Squad, with its eleven men, composed of two fire teams each armed with an organic M60 GPMG, won out over the C2 Squad with only one organic machine gun. The C1 Squad displayed increased lethality in the initial phases of the test, both in terms of volume of fire and strength in the assault. A machine gun in each team also made the teams more interchangeable, each equally capable of fire or maneuver. One notices a common trend, with evaluators favoring the balanced fire team as it allowed a greater capability for squad-level fire and maneuver, allowing each team similar capability of providing a base of fire or maneuvering.

One slightly negative issue that became evident to evaluators during the competition between the C1 and C2 Squads focused on sustainability. “As casualties occurred in the rifle squad, whether among riflemen or machine gunners, the tendency on the part of the squad and platoon leaders was to maintain the machine gun in action. As a result, the rifle strength of the squad was more rapidly depleted.”<sup>6</sup>

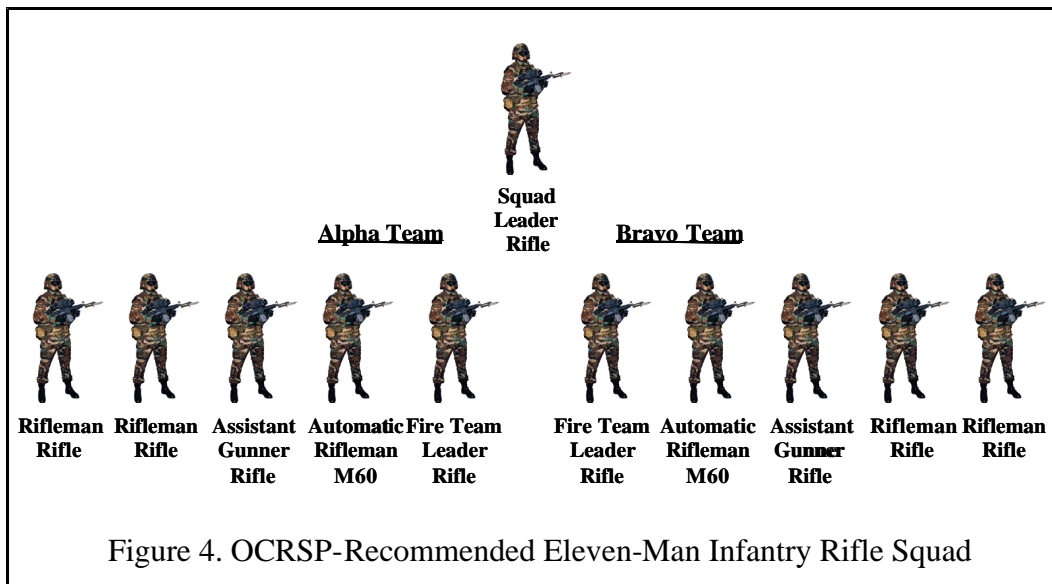
Also, the OCRSP study noted a large ammunition requirement associated with two machine guns per squad, and expressed concern as to the potential effect that this might have upon the squad when in sustained action. Even though the evaluators chose the C1 Squad to continue to the second phase of the competition, they hedged their bets by forcing it to compete against the B3 Squad, in order to more closely examine the advantages and disadvantages of one versus two machine guns per squad.

In the second phase of the competition, the OCRSP study revalidated the findings of the ASIRS study in 1956, recommending the C1 squad (eleven-man squad with two fire teams, each armed with a machine gun) as the optimum organization (see figure 4). This organization continued to provide the infantry rifle squad with the optimum size and composition for conducting squad-level fire and maneuver. The OCRSP study cited issues of sustainability to argue against smaller sized squads, pointing out the need to reorganize upon suffering limited casualties. In the offense, the eleven-man rifle squad was better able to suppress an enemy force, secure an objective, and more quickly consolidate on an objective than a smaller squad. From the defensive aspect, the larger eleven-man squad was better able to defend an assigned sector, allowing less dead space, or ground not covered by the effects of fire, within the defensive sector.<sup>7</sup> Thus, a second study confirmed that the eleven-man infantry rifle squad, organized with fire teams, provided the optimal organization for squad-level fire and maneuver.

The OCRSP study also recommended the replacement of the single BAR in each fire team with a single M60 GPMG in each fire team, in a one for one swap. Apparently, OCRSP evaluators did not believe that the M14 rifle, with its select-fire capability, could adequately fill the void left by the BAR. Although the CDEC Team successfully avoided



the temptation to develop imbalanced teams, potentially leading to the designation of a “fire” team and a “maneuver” team, they did significantly underestimate the difference between the BAR and the M60 GPMG.



The BAR was an automatic rifle in name and function, essentially requiring only a gunner to operate the weapon, even though most units had a second rifleman to serve as an assistant gunner. The assistant gunner was primarily a rifleman who carried additional magazines for the BAR, provided security for the BAR gunner, and was designated to take over the BAR in the event of the loss of the gunner. The M60 GPMG was a light machine gun, requiring a crew to serve the weapon. Typically this crew consisted of two or three men to operate the gun, carry ammunition, and carry additional equipment, such as the tripod. The CDEC team attempted to lump the BAR and the M60 GPMG into the same category as an automatic rifle and or machine gun.<sup>8</sup> This was an unfortunate

exaggeration, and the incorporation of a M60 GPMG into each fire team potentially reduced the effectiveness of the infantry rifle squad as it closed with the enemy for the assault. Even in light of the negative aspects, the incorporation of the M60 GPMG into the squad was beneficial, as it increased the lethality of the squad based on the responsiveness of an organic asset.<sup>9</sup>

Thus, the only significant change brought about by the OCRSP study was the replacement within the rifle squad of the BAR by the M60 GPMG. The size of the rifle squad remained constant at eleven infantrymen, while it continued to be composed of two balanced fire teams, each with capability to establish a base of fire or maneuver.

#### The Modern Mobile Army

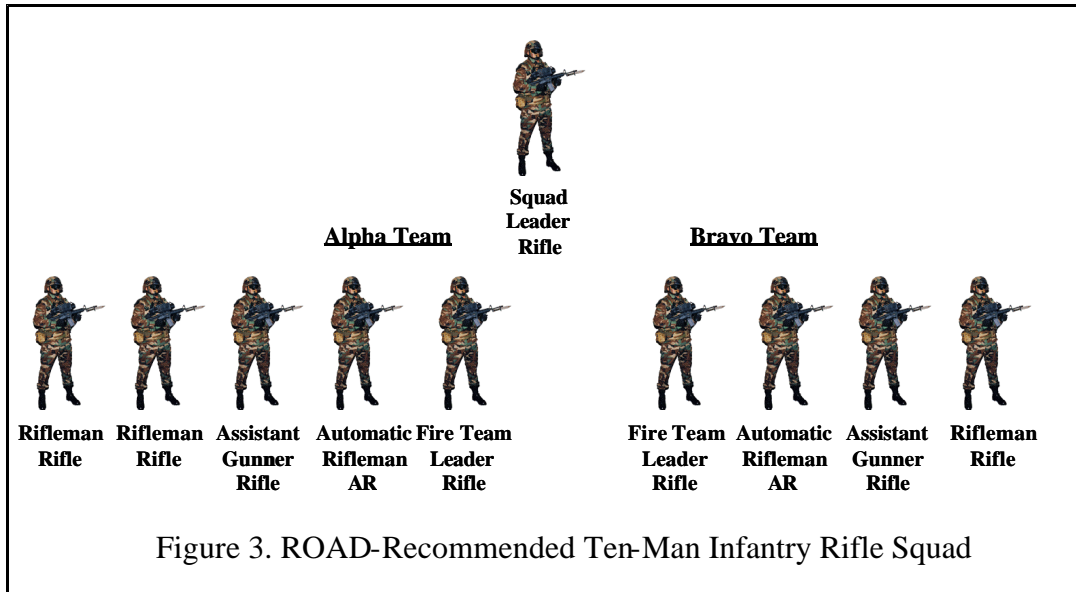
Another prelude to the ROAD changes was another COARC proposal called the Modern Mobile Army (MOMAR). The goal of MOMAR was to develop a smaller, more easily deployed unit that through advanced weapons technology maintained sufficient combat power for decisive action. MOMAR recommended reduction of the rifle squad to only seven men, one of whom would actually serve as the vehicle driver for the squad's armored personnel carrier. This reduction would yield a dismounted rifle squad strength of only six infantrymen.<sup>10</sup> The emerging ROAD changes quickly supplanted the MOMAR recommendations, since few military leaders seemed to honestly believe that a six-man rifle squad could be as effective as an eleven- man squad, regardless of what type of weapons it might employ.

## ROAD Changes Take Hold

In 1961, the US Army began reorganizing and modernizing as the first steps of the ROAD transition. The US Army transitioned all of its units to ROAD configuration over the next three years. The ROAD transition was similar to the MOMAR proposal in that its goal was to design smaller, more rapidly deployable forces; reliant upon technology (primarily enhanced weapons and communications) to ensure no loss in performance resulted from the reduction in force structure. Although these changes sought to reduce the number of soldiers in various units, the goal was to maintain all the current capabilities within the force. Therefore, these changes may have reduced squad size, but the goal was to retain the same capability of squad-level fire and maneuver. The enhanced weapons that theoretically would make these personnel reductions possible included the M60 GPMG, the M79 single-shot 40-millimeter grenade launcher, and the new M16 5.56-millimeter assault rifle. Thus, as a part of this restructuring, the infantry rifle squad again changed size.

The changes dictated by ROAD reduced the infantry rifle squad from eleven men to ten men, while retaining the fire team composition (see figure 5). These personnel changes resulted in the imbalance of the fire teams, with a squad leader, a five-man fire team, and a four-man fire team. The fire teams consisted of a fire team leader, an automatic rifleman (armed with a modified M14 automatic rifle equipped with a bipod), a grenadier (armed with an M79 grenade launcher), and one or two riflemen (armed with standard M14 rifles), dependent upon the team. Although the OCRSP study indicated that imbalanced fire teams provided a reduced capability for squad-level fire and maneuver, field tests and studies indicated that, based on these emerging weapons

technologies, the loss of one rifleman from each squad would not yield any appreciable loss in this capability.



Much has been made of this reduction of squad size and development of imbalanced fire teams in the mid-1960s. A great deal of evidence seems to indicate that this reduction of one man per infantry rifle squad was simply based on personnel savings, and the US Army attempted to rationalize this by arguing that more capable weapons allowed this change with no loss in capability.<sup>11</sup> Between 1961 and 1962, the Army was expanding from fourteen to sixteen divisions and had to find personnel savings wherever they could be found.<sup>12</sup> Although the ROAD transition may be evidence of the first change in force structure for reasons of personnel savings, it would not be the last.

## Rebuttal to ROAD

In April 1964, the Infantry School at Fort Benning published the *Infantry Organization Study - 1967* in an effort to correct what it viewed as deficiencies and shortcomings of the ROAD organization. Following the 1946 Infantry Conference, the Infantry School seemed tied to the recommendations of that conference regarding the composition of the rifle squad as a single entity, led by one man. The Infantry School failed to address OCRSP findings that clearly stated that the single entity rifle squad was very limited in terms of capability for squad-level fire and maneuver.

By 1964, the Infantry School primarily seemed displeased with the imbalanced nature of the ROAD fire teams. They viewed the “light” fire team, consisting of four men, as clearly unsustainable in the event of casualties. Due to this issue of sustainability, the Infantry School made the recommendation “to organize the squad with a squad leader, assistant squad leader, and eight men not organized in fire teams as a matter of permanent organization.”<sup>13</sup> Again, one easily sees the Infantry School holding fast to the 1946 Infantry Conference definition requiring the squad to be a single entity, led by only one man, the squad leader. The Infantry School leaders also saw this organization filling all of the requirements of the infantry rifle squad, while limiting the negative aspects brought about by the imbalanced fire teams of the ROAD squad. They believed that this composition “still permits the use of the fire team concept, and allows the employment of fire team tactics in a more flexible way where fire teams can be organized on the spot to best meet the situation at hand.”<sup>14</sup> Although it is difficult at first glance to see how creating an ad hoc organization is better than developing a permanent

one, it must be pointed out that this is the same way the US Army currently organizes battalion task forces and company teams.

Although the Infantry School rebutted the ROAD changes in force structure, nothing came of the recommendations to do away with the permanently organized fire team. It must be noted, by this time, the majority of infantry leaders favored the rifle squad composed of fire teams and its corresponding capability for squad-level fire and maneuver. Thus, the rifle squad maintained the ROAD organization throughout the mid-1960s, but change was already being thought about at the highest levels within the US Army.

#### Setting the Conditions for Change

In the late 1960s, the US Army Combat Developments Command Infantry Agency at Fort Benning began preparing for the next major evaluation of the infantry rifle squad. This time, significant preparations preceded the actual study. The Combat Developments Command Infantry Agency contracted Booz-Allen Applied Research Incorporated, a professional research firm, to provide background information essential to the study.

The first supporting document produced by the Booz-Allen contractors was *A History of the United States Army Squads and Platoons 1935–1967*. This document detailed the evolution of infantry small units, referring to exact TOEs for the rifle squad by various periods. This historical analysis also lists most, if not all, of the various tests, studies, and analyses that helped to shape the size and composition of the infantry rifle squad over those thirty-two years. This document clearly outlined the past decisions, documenting evaluative criteria, and rationale for recommended changes, and was used

to assist evaluators by depicting the evolution of the rifle squad and the rationale for these changes. It allowed the current researchers to build on the positive aspects of past studies and recommendations, all the while avoiding mistakes of the past.

Next, the Booz-Allen contractors interviewed Vietnam-experienced, platoon and squad-level officers and noncommissioned officers (NCOs) regarding their views on small unit infantry organizations, equipment, command and control, and tactics.<sup>15</sup> Researchers provided a similar survey to students of the Infantry Career Course (CAR), in an effort to gain additional insights. The researchers compiled the results of these surveys in a report titled *Small Unit Combat Experience, Vietnam, 1966–1967*, focusing on issues critical to the small unit leader in the field. The survey of officers and NCOs with Vietnam experience and CAR students allowed the results of the surveys to reflect the desires of leaders across the Army, preventing the recommendation of a squad organization suited solely for action in Vietnam.

The critical issues that may be gleaned from the surveys were the satisfaction with the fire team composition, the issue of the optimum size of the rifle squad, issues of squad sustainability due to size and composition, and the recommended weapons mix (rifles, grenade launchers, and automatic weapons) within the squad. Approximately 75 percent of the individuals surveyed were satisfied with the fire team organization and the capability that it provided to squad and platoon leaders, while the other 25 percent preferred the squad composition controlled by a squad leader and assistant squad leader. As to the issue of squad size, approximately 65 percent of the Vietnam-experienced individuals surveyed preferred a ten-to-twelve-man squad, while 80 percent of the CAR students favored the ten-to-twelve-man squad. Most respondents believed that squad

sustainability based on casualties forced the reorganization of the rifle squad into a single entity when the squad size fell below seven or eight men. Among Vietnam-experienced officers and NCOs, 85 percent of those surveyed believed that the M60 GPMG should be attached directly to the rifle squad.<sup>16</sup> These survey results gave the researchers an area in which to focus their analysis of the issues regarding the size and composition of the infantry rifle squad. Based on the recommendations of officers and NCOs with Vietnam combat experience, the next study was certain to evaluate a rifle squad, composed of balanced fire teams, with machine guns attached or organic to the rifle squad.

Both the historical analysis of the rifle squad since 1935 and the opinions of combat leaders gave the researchers focus for the upcoming analysis, known as the *Infantry Rifle Unit Study (IRUS)*. *A History of the United States Army Squads and Platoons 1935–1967* illustrated the evolution of the rifle squad, documented past studies, and allowed evaluators to learn from the past. *Small Unit Combat Experience, Vietnam 1966–1967* gave evaluators the voice from the field, focusing the evaluation on what leaders in the field wanted their rifle squads to look like. Thus, the IRUS team was ready to embark on its analysis of the infantry rifle squad organization.

#### The Infantry Rifle Unit Study (IRUS)

As evident by the intense preparations for the study, the IRUS was the most exhaustive and detailed analysis of the optimum composition of the infantry rifle squad ever conducted. The IRUS sought to determine the optimum squad and platoon-level organizations for all infantry and cavalry formations. Initially, the IRUS researchers attempted to define the basic infantry element (BIE). The BIE was similar to the basic brick concept from the ASIRS study of 1956. Thus, the term BIE took the place of the



phrases “squad” or “ fire team” in an effort to restore objectivity to the analysis. As the IRUS evaluation continued, it became obvious that the phrase BIE was synonymous with “fire team,” and the researchers placed the optimum number of personnel for the BIE at five to seven men.<sup>17</sup>

After determining the size of the BIE, the researchers then sought to define the optimum weapons mix for the unit and also what tactical applications the BIE should be capable of performing. The IRUS researchers entered the evaluation with ample recommendations regarding the optimum weapons mix for the BIE, based on the initial surveys of the Vietnam combatants and the CAR students. The recommended weapons mix included one universal machine gun (UMG) or squad automatic weapon (SAW) within a BIE. The UMG/SAW envisioned by the IRUS researchers should not be confused with the current M249 SAW, but was merely seen as a one-man automatic weapon, capable of providing a high volume of sustained fire to facilitate squad maneuver.<sup>18</sup> Within each BIE, the IRUS report also recommended a single dual-purpose weapon (combination of rifle and grenade launcher). The remaining weapons contained within the BIE were to be rifles to allow adequate combat power during the assault. Based on the weapons mix of one UMG/SAW, one dual-purpose weapon, and remaining soldiers armed with rifles, the BIE became a fire teamlike organization with five or six soldiers. It is obvious that the BIE organization allowed for only one tactical action at a time, either providing a base of fire or maneuvering. As BIEs were grouped under a squad organization, the capability to execute fire and maneuver was regained.

The IRUS researchers analyzed three basic squad organizations: the thirteen-man squad (one squad leader and two fire teams composed of six men per team), the eleven-

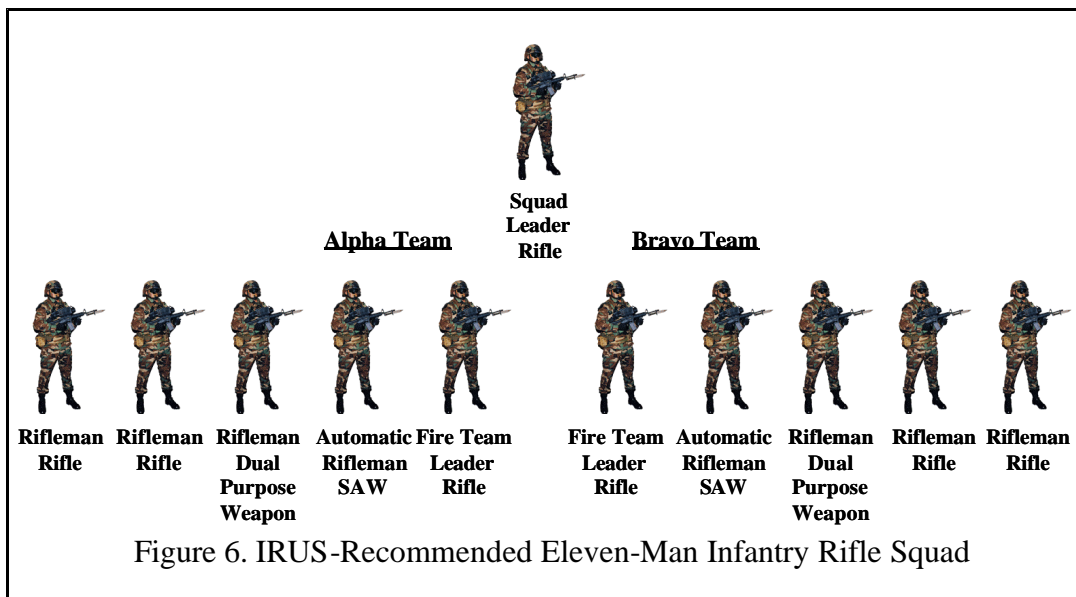
man squad (one squad leader and two fire teams composed of five men per team), and the ten-man ROAD squad (one squad leader and two fire teams, one composed of five men and the other composed of four men). All three squads performed well in tactical exercises and computer simulations.

The IRUS researchers next conducted a cost-benefit analysis, and determined that the thirteen-man squad required too many resources. The next best squad organization was the eleven-man squad. At full strength, the eleven-man squad was seen as the minimum force capable of performing all required missions against an enemy force.<sup>19</sup> Its only drawback was that, based upon two fewer riflemen within the squad, the eleven-man squad was less sustainable than the thirteen-man squad, but still maintained the required capability for squad-level fire and maneuver. For infantry, airborne, and airmobile organizations, the IRUS researchers recommended the eleven-man squad, primarily based upon its ability to withstand the effects of attrition, receiving high marks based on sustainability. The eleven-man squad, with additional rifles also was more lethal than other organizations and performed well in the assault. In the case of mechanized infantry units, the IRUS researchers recommended a nine-man infantry rifle squad, as they expected that an infantry fighting vehicle (IFV) would be a part of this unit, and capable of increasing the squad's combat power.<sup>20</sup>

Thirteen years after the ASIRS study recommended the eleven-man rifle squad with two fire teams consisting of five men per team, the IRUS confirmed the validity of the earlier recommendation based on an even more exhaustive study. The US Army did not initially act upon the IRUS recommendation of different size squads for mechanized

infantry units and all other types of infantry. Instead, the US Army quickly approved the IRUS recommendations for an eleven-man infantry rifle squad (see figure 6).

Squad reorganization was not a priority throughout the 1970s; therefore, the US Army maintained the eleven-man rifle squad first recommended by the ASIRS study and recently confirmed by the IRUS board. Thus, the US Army entered the early 1980s with the IRUS eleven-man rifle squad, composed of fire teams and fully capable of conducting fire and maneuver. All that remained necessary for the US Army leadership was to maintain this capability in the upcoming era of personnel reductions.



<sup>1</sup>US Army Combat Developments Command, *Optimum Composition of the Rifle Squad and Platoon (OCRSP)* (Fort Ord, CA: Combat Developments Command, 1961), 15-19.

<sup>2</sup>Ibid., 18.

<sup>3</sup>Ibid., 19.

<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

<sup>6</sup>Ibid., 16-17.

<sup>7</sup>Ibid., 20.

<sup>8</sup>Ibid., 21.

<sup>9</sup>Ibid., 36.

<sup>10</sup>Robert Dupree and Horace Homesly Jr., *A History of the United States Army Squads and Platoons, 1935–1967* (Fort Benning, GA: Combat Developments Command Infantry Agency, 1967), 76-77.

<sup>11</sup>Ibid., 84-86.

<sup>12</sup>Ibid., 85-86.

<sup>13</sup>US Army Combat Developments Command, *Infantry Organization Study-1967* (Fort Benning, GA: Combat Developments Command Infantry Agency, 1964), E-5.

<sup>14</sup>Ibid., E-5.

<sup>15</sup>T. A. Williams and Horace Homesley Jr., *Small Unit Combat Experience, Vietnam 1966–1967* (Fort Benning, GA: Combat Developments Command Infantry Agency, 1967), 13.

<sup>16</sup>Ibid., 15-20.

<sup>17</sup>US Army Combat Developments Command, *Infantry Rifle Unit Study (IRUS 75), Phase I, Field Experimentation* (Fort Benning, GA: Combat Developments Command, 1969), 4-1.

<sup>18</sup>Currently, the M249 SAW neatly fills the role of a one-man universal machine gun or squad automatic weapon, as envisioned by the IRUS researchers.

<sup>19</sup>US Army Combat Developments Command, *Infantry Rifle Unit Study (IRUS 75), Phase II*, Vol. 1 (Fort Benning, GA: Combat Developments Command, 1969), 36.

<sup>20</sup>Ibid., 53.

## CHAPTER 4

### THE LAST TWENTY-FIVE YEARS

As the US Army entered the 1980s, the infantry rifle squad had been fully capable of conducting squad-level fire and maneuver since 1956. The squad had consisted of eleven men organized into two balanced fire teams for the majority of this time, with only a slight deviation (the reduction of one man due to the ROAD organization) in size. At least three in-depth studies had analyzed the question of squad organization and determined that a squad of this size and composition offered the optimal organization for squad-level fire and maneuver. All that remained for the US Army to do was to maintain this organization, thereby maintaining the capability of squad-level fire and maneuver. No major event occurred during this time that required a fundamental change in the organization of the infantry rifle squad, but, nonetheless, change occurred as a result of the US Army's desire for smaller, more easily deployed forces. A difficulty existed, and continues to exist, in balancing rapid strategic deployability with combat effectiveness, at least at the rifle squad level. In simplified terms, smaller units are more deployable, yet larger units (to a degree) are often more combat effective.

The 1980s and 1990s saw a shift in focus from the optimal organization to the minimal organization. The US Army's senior leadership attempted to determine the minimum organization that continued to allow the force to retain its previous capabilities. Thus, one sees a decrease in the size of the infantry rifle squad to a level that allowed only limited squad-level fire and maneuver.

Much of the organizational development during the 1980s focused on larger units, attempting to develop new types of units, such as light infantry and BFV-equipped

mechanized forces, with enhanced capabilities at the battalion, brigade, and division level. During this time, the in-depth analysis and evaluation present in earlier studies of the 1950s and 1960s appear absent. Since the studies of the 1980s focused on larger units, division level and above, it was impossible for evaluators to actually test real units, as had been done during squad evaluations in earlier years. Thus, the evaluators used a system of combat modeling to analyze larger units.<sup>1</sup> With changes focused at higher levels, many of the results of these organizational development studies of the 1980s hurt the infantry rifle squad, reducing its capability for fire and maneuver.

#### Division Restructuring Study

The initial study following the American withdrawal from Vietnam was the Division Restructuring Study (DRS) conducted in 1978. As with the majority of the studies over the last twenty-five years, the DRS focused on a multitude of issues, typically at the division level. The primary goal of the DRS study was to “prepare the US Army to integrate into the force the new weapons systems of the early 1980’s and to optimize their employment.”<sup>2</sup> This higher-level focus did not yield the obvious results of earlier squad and platoon-level studies of the 1950s and 1960s.

The DRS report also provided an early example of a study designed with force reduction as a secondary goal. The DRS report sought to recommend smaller, more efficient organizations, primarily made possible by advanced weapons thought to be available in the early to mid-1980s. This became a standard feature of studies during the late 1970s and early 1980s, typically cited as the rationale for recommending a reduction in force structure.

The DRS report reviewed the infantry rifle squad organization as part of its review of maneuver battalions. Since the goal was development of smaller, more lethal battalions, it became apparent that the rifle squad would likely shrink. The researchers recommended a nine-man squad, composed of the standard two fire teams.<sup>3</sup> This report is the first study to caveat its recommendation for a nine-man squad with a further recommendation that to achieve a “foxhole” strength of nine men, the squad may require eleven soldiers.<sup>4</sup> Like the OCRSP and IRUS studies that preceded it, the DRS study expressed concerns over the sustainability of the proposed nine-man squad, but offered no solutions to this problem.

Thus, as the US Army moved beyond the Vietnam era, personnel savings and reduction in force structure became the primary force that drove these studies. The studies conducted began to focus at higher levels, with a very limited analysis given to the infantry rifle squad. As force structures shrank, so did the size of the infantry rifle squad, and with this reduction in size the capability of the rifle squad to conduct fire and maneuver also decreased.

#### The Division 86 Study

As the US Army approached the 1980s, it began to develop a new doctrinal concept, AirLand Battle. AirLand Battle doctrine was designed to defeat a Soviet/Warsaw Pact invasion of Western Europe through a series of mobile defenses, followed by a decisive counterattack to regain lost territory. As a result of this envisioned mobile defense and decisive counterattack, the US Army began developing forces capable of executing these operations, with the DRS study leading the way for additional studies.

Initially, US Army TRADOC began studying the type of units needed to execute the AirLand Battle doctrine. The umbrella study begun by TRADOC in the late 1970s and spanning into the early 1980s was the Army 86 study, encompassing the Division 86 (DIV 86), the Corps 86, and the Echelons Above Corps 86 (EAC 86) studies.

The DIV 86 researchers initially focused on the US Army heavy (armored or mechanized infantry) division, as they viewed this force as the most capable of defeating a vast enemy armored elements attacking through Western Europe. Perhaps the most significant issue to come out of this study were the personnel constraints placed on the planners, limiting infantry, armor, cavalry, and aviation elements to 9,150 personnel (50.8 percent) of a projected 18,000 personnel in the division.<sup>5</sup> This personnel constraint hurt the rifle squad size, as the squad was the last element reviewed, thus it essentially received only what was left as the planners worked their way down the command structure. The DIV 86 researchers recommended that the mechanized infantry rifle squad consist of nine men, organized into two fire teams, as was originally recommended by the IRUS study.<sup>6</sup> It is important to note that, although the IRUS study recommended different squad sizes between light and mechanized infantry units, the US Army maintained a standard squad across the infantry (heavy and light), consisting of eleven men. As seen in previous studies, this nine-man squad offered only a limited capability for fire and maneuver based on issues of sustainability. What was significant is that throughout the DIV 86 study there was no mention of the affect this squad size might have on the combat effectiveness or the capability of the squad to conduct fire and maneuver.



As they had done with the heavy division, the DIV 86 planners also analyzed the emerging concept of the “light” division. Force developers envisioned the light division as possessing rapid strategic deployability and sufficient combat power, particularly in antiarmor capability, to threaten enemy forces. The DIV 86 study envisioned three basic types of light divisions: infantry, airborne, and air assault.<sup>7</sup> As in planning the heavy divisions, personnel constraints initially limited DIV 86 planners to 6,930 personnel (49.0 percent) for infantry, cavalry, and aviation positions out of a potential 14,140 personnel divisionwide.<sup>8</sup> The DIV 86 planners went through four organizational designs prior to gaining approval from then US Army Chief of Staff, General Edward C. Meyer. The final light infantry division design called for 17,773 personnel, of which only 5,752 soldiers (32.4 percent) would actually serve in an infantry battalion. Again, the analysis was top down, yielding in the end result a rifle squad strength of eleven men, still organized into two fire teams.<sup>9</sup> This figure kept within the proscribed standards of the IRUS study, but again gave virtually no consideration to combat effectiveness or capability at the squad level.

One must remember that the Army 86 study focused on division, corps, and echelons above corps level. Evaluators considered and evaluated combat effectiveness at these levels using combat modeling. The DIV 86 evaluators seemed to start at the higher levels, analyzing combat effectiveness and dividing up resources as they went down the command structure. Although no evidence suggests analysis at the squad level, it must be assumed that the planners attempted to keep lower level organizations in line with previously proscribed sizes, hence the confirmation of the IRUS recommendations for both mechanized and light infantry rifle squads. Thus, the DIV 86 study weakened the

mechanized infantry squad organization and reduced its ability to conduct fire and maneuver, all the while maintaining the status quo for the light infantry squad.

Even as the recommendations of the DIV 86 were being implemented, senior leaders within the US Army were beginning to question the validity of these proposed changes. Thus, before these changes even began to affect organizations throughout the army, another study began.

### The Army of Excellence

In June 1983, General John A. Wickham Jr. became the new US Army Chief of Staff, and immediately halted all restructuring efforts recommended by the Army 86 study. General Wickham chose to gather additional input from the field army, scheduling the 1983 Army Commanders' Conference for August of that year. During this conference, senior army commanders complained of a "hollow" army, which on the surface appeared to have all of the necessary elements for victory on the anticipated Air-Land Battlefield, but lacked the required "robust" force structure.<sup>10</sup> Thus, US Army TRADOC began a new study, the Army of Excellence (AoE). Much like the Army 86 study, the AoE would focus on higher-level organizations: divisions, corps, and echelons above corps.

Also as with the DIV 86 study, the AoE study concentrated on light and heavy divisions, attempting to develop the optimum organizations within the context of established personnel constraints. General Wickham desired a light division consisting of 10,000 soldiers, a significant reduction from the DIV 86 recommended organization (17,773 personnel).<sup>11</sup> This 10,000-soldier planning limit was based primarily on issues of strategic deployability, trying to keep the division small enough for rapid deployability.

General Wickham’s guidance also sought to reduce the heavy divisions by nearly 2,000 soldiers.<sup>12</sup>

Similar to the DIV 86 study several years before, the AoE study focused at higher levels and worked its way down the command structure, this time obviously using lower-level organizations as the “bill payer” for personnel constraints emplaced on the division. The AoE study recommended cutting both heavy and light infantry rifle squads to nine men (see figure 7).<sup>13</sup> These cuts were based solely on personnel savings and evaluators did not consider the effect on the capability of these organizations. These higher-level studies also did not focus on weapons mix at the squad level; thus, planners accepted standard compositions within fire teams of one SAW, one dual-purpose weapon, and the remainder of the unit armed with rifles. Through these reductions in squad size, the AoE researchers sought to standardize the infantry rifle squad across the two predominant types of infantry (heavy and light).

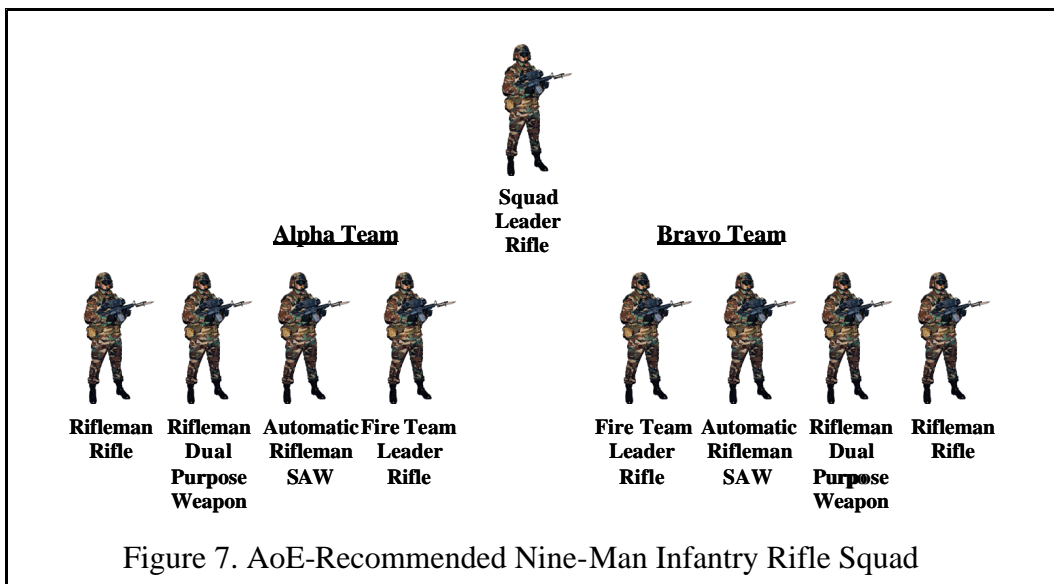


Figure 7. AoE-Recommended Nine-Man Infantry Rifle Squad

On the surface, these reductions in squad size did not appear to deny the capability of squad-level fire and maneuver, but they did. One must recall that according to the OCRSP and IRUS studies, the issue of sustainability greatly hurt smaller squad organizations. According to many Vietnam War combat infantry leaders, “the breakpoint, the size at which the squad changed from fire teams to a single squad element, seems to be seven or eight men.”<sup>14</sup> Thus, a nine-man squad would be forced to reorganize into a single entity, no longer capable of conducting squad-level fire and maneuver, upon sustaining only one or two casualties. As a direct result of the AoE study, a capability that the US Army had sought and fostered since the end of World War II was significantly diminished in the interest of personnel savings.

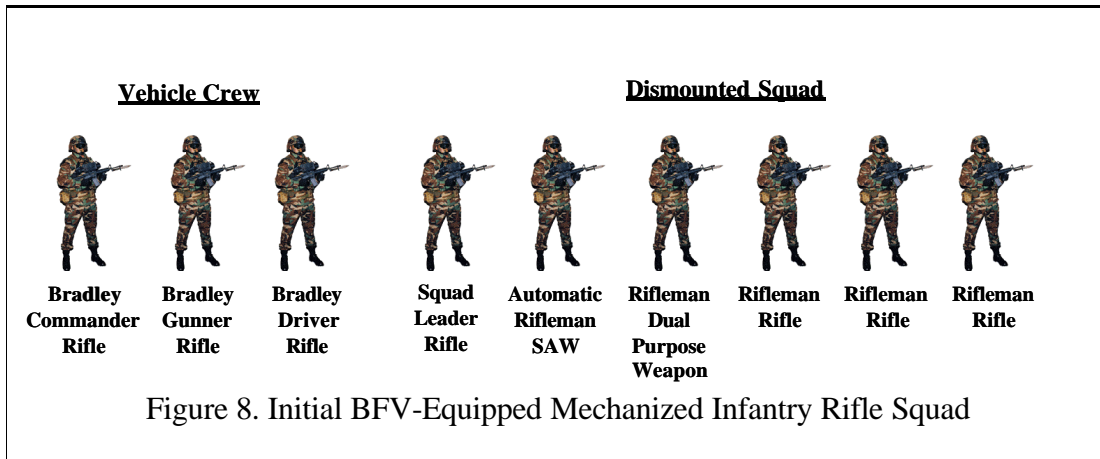
#### Development of the BFV-Equipped Mechanized Infantry

With the introduction of the BFV in the mid-1980s, the mechanized infantry rifle squad gained an excellent IFV, but suffered a major setback in its ability to conduct fire and maneuver. Although the AoE study recommended a standardized nine-man squad for both light and heavy infantry organizations, limitations of the BFV squad compartment further affected squad size.

#### The Beginnings of the BFV-Equipped Mechanized Infantry

The initial BFVs (M2, M2A1, and M2A2) had interior seating arrangements in the squad compartment that allowed for the seating of only six squad members. As the BFV needed to remain manned even if the “squad” dismounted, the three-man vehicle crew was viewed as part of the squad. These two elements (the dismounted squad and the vehicular crew) combined to form the recommended nine-man rifle squad. In

essence, the mechanized infantry rifle squad, once dismounted, was composed of six men (see figure 8).

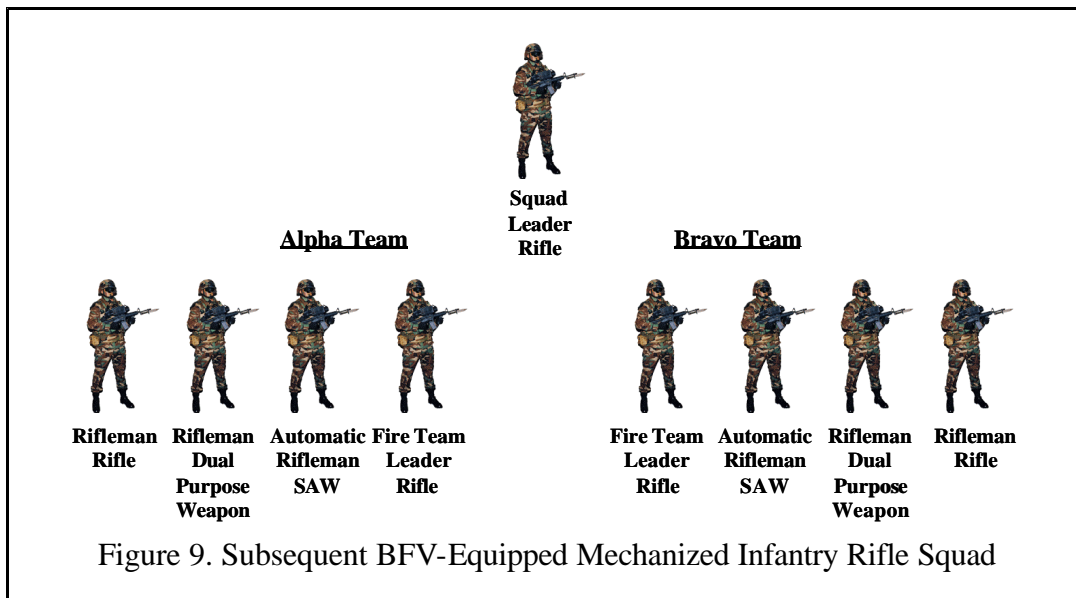


As conceptualized, the BFV would provide the base of fire, with its 25-millimeter cannon, coaxial mounted machine gun, and even TOW heavy antitank-guided missile as necessary. This base of fire would then allow the dismounted “squad” to maneuver against the enemy. In theory, this technique allowed the mechanized infantry squad to continue to conduct squad-level fire and maneuver, while supported by the BFV. One must understand that the dismounted “squad” consisting of six soldiers was, under this system, completely incapable of fire and maneuver unless working in conjunction with the BFV. Although this concept works theoretically, US Army mechanized infantry tactical doctrine separated the BFV from the “squad,” nullifying this envisioned support. By doctrine, the platoon’s four BFVs established a support by fire position, typically under the control of the platoon sergeant, and sometimes greater than a kilometer (approximately two-thirds of a mile) from the objective that was to be attacked. The

platoon leader would then attack with the rifle “squads” to clear the objective. This is where the theory broke down. The platoon leader moved his dismounted “squads” through thick vegetation or terrain that would limit enemy fire as he moved forward. Unfortunately, this also greatly limited the BFV support by fire element’s ability to provide suppressive fires. Therefore, if the platoon leader and his dismounted “squads” encountered an enemy force en route to their objective, the platoon leader controlled fire and maneuver of his “squads,” as they no longer had that capability at the squad level. Thus, the concept of the BFV providing the base of fire to allow the mechanized infantry “squad” to maneuver was flawed, and yielded a rifle squad incapable of conducting fire and maneuver.

#### Modifying the BFV-Equipped Mechanized Infantry Organization

Even this system of each “nine-man” squad having its own BFV did not work, due to the need to place the platoon headquarters element (platoon leader, platoon sergeant, and platoon radio-telephone operator) into BFVs. US Army TRADOC modified the BFV-equipped mechanized infantry TOE in 1988, consolidating the three six-man “dismounted squads” into two squads consisting of nine men per squad, composed of two fire teams (see figure 9). This returned to the mechanized infantry platoon the limited capability of squad-level fire and maneuver within the dismounted element. Thus, the introduction of the BFV to the mechanized infantry gave US forces a very effective IFV, but significantly reduced the squads’ capability to conduct fire and maneuver.



### Continued Improvements to the Organization

Following Operation Desert Storm, US Army infantry leaders demanded improvements to the basic BFV, resulting in the M2A2 ODS (Operation Desert Storm). The ODS Bradley, as it came to be called, had bench seating in the squad compartment, theoretically allowing for seating of seven soldiers inside the back of each BFV. This led to TOE modifications, which again primarily affected the platoon.

Initially, planners at the Infantry School at Fort Benning recommended modifying the organization to include two rifle squads, consisting of nine men each, and composed of fire teams. In addition to these two squads, they recommended a machine-gun section, consisting of a section leader, and two machine-gun crews (each crew consisting of a gunner and an assistant gunner/ammunition bearer). This machine-gun section would provide a base of fire to allow the squad to maneuver. Just as with the BFV sections providing the base of fire for the squad to maneuver, this theory also reduced the

capability of the squad to conduct fire and maneuver, and centralized this capability at the platoon level.

At this point, it is important to note that the BFV was capable of carrying seven soldiers; thus, a nine-man squad would have to ride in two separate vehicles. Since the mechanized infantry platoon's four BFVs fought as two sections, each consisting of two BFVs, breaking up the rifle squad for transport was not seen as such a problem. The vehicles of the section fought close enough on the battlefield to allow the squad leader to quickly form his unit and begin the task at hand.

Eventually, in the late 1990s, the Infantry School reorganized the mechanized infantry platoon to include three dismounted squads consisting of nine men each. While this modification increased the dismounted strength of a mechanized infantry rifle platoon, it did nothing to affect the limited squad-level capability for fire and maneuver exhibited by the nine-man rifle squad.

The interior dimensions of the BFV's squad compartment also significantly impacted this change. The BFV was still only capable of carrying seven men, and the platoon continued to fight in two sections. Thus, while two squads were spread across both vehicles of a section for transportation, the third squad had its members spread across the entire platoon. This move made dismount drills extremely difficult for the mechanized infantry platoon leader, likely requiring him to dismount his squads earlier (farther away from the objective) than before to allow his squads to form out of contact with the enemy force. Although this did not seem to be a major issue, it must be remembered that the longer the dismounted movement, the slower the tempo of the



operation, and mechanized units viewed increased tempo as one of their greatest strengths.

### The Holistic Review of Infantry

As the majority of the changes of the 1990s focused on developing solutions for problems noted in the formation of the BFV-equipped mechanized infantry squad, very little focus was given to the rifle squad overall. Many within the US Army infantry community seemed satisfied with the light infantry's nine-man rifle squad or, at least if not satisfied, knew that it was the best they would get in an era of shrinking budgets and a "downsizing" military. Still, some officers continued to search for better solutions.

In 1994, Colonel Galen B. Jackman, the Director of the Infantry School's Combined Arms and Tactics Directorate, advocated a radical departure from the normal infantry rifle squad organization. He based his recommended shift from the norm due to an analysis of the changing operational environment and the US Army's current trend toward force reduction. Colonel Jackman believed that his recommended organization would return to the infantry rifle squad the capability to conduct fire and maneuver.

Colonel Jackman advocated smaller fire teams, but bigger squads, viewing the team, the basic building block of combat elements, as being comprised of three soldiers; "a leader, a systems operator, and an assistant or security provider."<sup>15</sup> The squad envisioned by Colonel Jackman consisted of three teams, controlled by a single squad leader, thus a ten-man rifle squad. The weapons mix for each team consisted of one rifle, one dual-purpose weapon, and one SAW. Again, this organization appears similar to the USMC infantry rifle squad, organized in a triangular fashion, with three teams instead of the standard two typically found in a US Army rifle squad.

This proposed organization displayed strengths and weaknesses in several areas. The strengths were evident when analyzed in terms of control and flexibility; yet, this organization provided for extremely limited sustainability. The issue of lethality was undecided, since both strengths and weaknesses existed when studying this evaluative criterion.

In Colonel Jackman's proposed organization, the squad leader and his team leaders had excellent potential for control of this squad. Span of control, within the squad was no greater than a one-to-three ratio of leader to led, that being the linkage from squad leader to team leader. The team leader was envisioned as controlling the two soldiers within the team, thus having a very small span of control, thereby allowing the team leader to very easily lead and fight, as had always been envisioned for team leaders. Thus, Colonel Jackman's proposed organization allowed for excellent control of subordinates.

The triangular organization recommended by Colonel Jackman appeared to offer excellent flexibility, in that a leader would have had three subelements to apply to various missions. This three-fire team organization also allowed a squad leader to more easily mass his forces while providing a base of fire or maneuvering. In this way, if the squad were attacking a significant enemy position, the squad leader could have one of his teams assaulting, while the other two provided suppressive fires. If enemy forces were not as great, he could use only one team to suppress the enemy, while the other two teams assaulted, thus providing weight to his assault. In this way, the triangular organization provides excellent flexibility.

The major drawback of this proposed organization came when one analyzed the squad in terms of sustainability. The three-man fire teams were simply not sustainable. Much like the nine-man rifle squad, even one or two casualties easily degraded this organization's capability to conduct fire and maneuver. This proposed squad organization would require reorganization into a single entity upon sustaining very limited casualties, likely one or two personnel.

As to the issue of lethality, this proposed rifle squad had strengths and weaknesses. Since each team would have consisted of a SAW and a dual-purpose weapon, the teams would have been capable of providing adequate suppression of an enemy position. This weapons mix was also within the standards recommended by the OCRSP study, with less than one-third of unit personnel armed with a SAW. Therefore, the unit likely would have been capable of providing an excellent volume of fire, but was likely to suffer from serious logistics burdens from trying to supply three SAWs with adequate ammunition. As to the weaknesses based on lethality, the squad had limited rifle strength, which is a critical element as the squad assaults an enemy position.

Thus, it is easy to determine that the ten-man squad, arrayed with three fire teams offered some limited advantages over the nine-man squad, composed of two fire teams, but also displayed significant weaknesses resulting from the organization's limited sustainability. On the basis of sustainability alone, the squad organization recommended by Colonel Jackman appeared less capable of fire and maneuver than the standard nine-man squad. This was obviously apparent to senior US Army leaders, hence Colonel Jackman's proposed organization was not adopted, but it serves to illustrate that many military leaders still continued to question the validity of the nine-man squad.

## The Development of the IBCT

The final initiative of the 1990s was the development of the IBCT. As stated in chapter 1, this study will not focus on the development of the IBCT, as it is still evolving. Since this force was envisioned as an interim solution to the issue of developing a balance between rapid strategic deployability and tactical capability, force developers designed the unit along generally accepted organizational models. Thus, the IBCT rifle squad consists of the standard nine-man squad, comprised of two balanced fire teams. Inherent to this organization is the limited capability that this squad structure has for conducting squad-level fire and maneuver.

### Overall Results of the Last Twenty-five Years on the Rifle Squad

The force development trends of the 1980s and 1990s focused on reducing the force structure and determining the minimum organizations necessary to continue to provide units with similar capabilities as larger, more robust organizations. The focus was also on higher-level organizations, often relegating the limited analysis of the infantry rifle squad to a virtual footnote of the study. As opposed to continuing with the philosophy of building a unit from the bottom up, as was done in the 1950s and 1960s, the force developers attempted to build the unit from the top down, often leaving the infantry squad whatever force was left at the end.

Thus, the infantry rifle squad shrunk from eleven men, organized into two balanced fire teams, to a nine-man squad, similarly organized, only on a slightly smaller scale. Although the elimination of two soldiers from the squad size appeared relatively insignificant, the attendant loss in squad-level fire and maneuver capability was significant. Hence, based on issues of sustainability and lethality, the changes to the

infantry rifle squad over the last twenty-five years effectively took away the squad's capability to conduct fire and maneuver.

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<sup>1</sup>Evaluators used a system of combat modeling to determine optimum organizations as a result of the difficulty in actually forming division-sized units for testing. This system of combat modeling uses a comparison of relative combat power (defined as a force's potential for maneuver, firepower, protection, and leadership) between adversaries, and was advocated by General William E. DePuy, at that time the US Army TRADOC Commander, and Brigadier General Huba Wass de Czege.

<sup>2</sup>Force Structure and Design Directorate, *Division Restructuring Evaluation, Independent Evaluation Report, Maneuver Battalion Phase*, vol. 1 (Fort Leavenworth, KS: US Army Combined Arms Center, 1978), 2.

<sup>3</sup>*Ibid.*, 22.

<sup>4</sup>*Ibid.*, 27.

<sup>5</sup>John Romjue, *A History of Army 86*, vol. 1 (Fort Monroe, VA: Historical Office, US Army Training and Doctrine Command, 1982), 37.

<sup>6</sup>*Ibid.*, 51.

<sup>7</sup>John Romjue, *A History of Army 86*, vol. 2 (Fort Monroe, VA: Historical Office, US Army Training and Doctrine Command, 1982), 27.

<sup>8</sup>*Ibid.*, 28.

<sup>9</sup>*Ibid.*, 51

<sup>10</sup>John Romjue, *The Army of Excellence: The Development of the 1980s Army* (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1993), 32-33.

<sup>11</sup>The DIV 86 study recommended 17,773 soldiers in the light infantry division. Now, based on General Wickham's guidance in the summer of 1983, planners were required to cut this figure by nearly 8,000 soldiers.

<sup>12</sup>Heavy divisions come in two types; armor divisions and mechanized infantry divisions. In 1982, the typical armor divisions consisted of 19,200 soldiers, while the mechanized infantry division was comprised of 19,400 soldiers.

<sup>13</sup>Romjue, 46-49.

<sup>14</sup>Williams and Homesley, 16.

<sup>15</sup>Galen Jackman, *A Concept for the Infantry of the Twenty-First Century in Combat Operations and Operations Other Than War (Holistic Review of Infantry)* (Fort Benning, GA: Combined Arms and Tactics Directorate, US Army Infantry School, 1994), 16.

## CHAPTER 5

### CONCLUSION

After a historical review of the army's restructuring efforts over the last fifty years and the effect of these changes on the infantry rifle squad, it is important to remember that the goal of the US Army remained to gain and then maintain the optimal squad organization allowing for fire and maneuver at the squad level. With the emphasis placed on personnel savings during the 1980s and 1990s, this critical squad-level capability diminished to a level that caused some military leaders to argue that it only existed in theory.

Over the past fifty years many challenges have faced the US Army. The transition from a "draft" to a "volunteer" army was a significant challenge faced in the 1970s. The evolution of military doctrine that resulted from experiences in Vietnam greatly affected the US Army. All the while, the central concern remained how to defeat the vast Soviet military in a conventional conflict in Western Europe. Finally, the US Army faces a changing world situation in the new millennium, with potentially new threats in unfamiliar environments. Despite these challenges, US military leaders must not lose sight of the importance of maintaining the integrity of the rifle squad, as this organization is the basic building block for all units. An infantry rifle squad without the capability of conducting fire and maneuver is simply an overgrown fire team, thus a combat ineffective unit from the start.

As stated in chapter 1, the US Army is at the crossroads of change as it enters the twenty-first century. Senior military leaders are deciding critical issues for the force, decisions that will have lasting ramifications over the next twenty years. This review of

the evolution of the modern infantry rifle squad clearly illustrates that past military leaders have faced similar decisions.

### Trend Analysis

Upon reviewing the last fifty years and the evolution of the infantry rifle squad during that period, it is obvious that many of the challenges facing today's military leaders and force developers are nothing new. It is important that one conduct a brief analysis of these trends prior to looking directly at the squad organization, as these trends affect the organization of the infantry rifle squad. Looking at these trends briefly may refute some of the arguments in favor of high technology and smaller, more deployable forces. An analysis of these trends will also clearly illustrate the evolutionary nature of this study, since many of the goals of the US Army's current transformation have been goals of past transformation attempts.

### Bottom-Up versus Top-Down Force Development

During the 1950s and 1960s, military leaders analyzed lower-level organizations in an attempt to build combat effective units from the bottom up. Military leaders viewed the squad as the building block for higher-level organizations and, therefore, started at the bottom, continually grouping small units to form larger organizations. As the US Army began the massive reorganizations following the Vietnam era, the senior leadership took a top-down approach to force development, focusing on the higher-level organizations: divisions, corps, and even echelons above corps. This higher-level focus caused squad organization to be viewed as an afterthought, and it became clear that the combat



effectiveness of the infantry rifle squad was of minimal concern in the reorganizations of the 1980s.

Both the bottom up and top down approach to force development have merit, but often yield different results at different levels. The bottom up theory envisions creating combat effective small units and grouping them to form larger organizations. The assumption is that the higher-level organization, since it is composed of combat effective small units, will also be combat effective. The strength of the bottom up system of force development is that it is easy to evaluate actual units when attempting to determine the optimum squad, platoon, or company organization. The top down system of force development uses the opposite approach, attempting to develop combat effective organizations at division level or above, and then to develop the force structure of lower-level units, the belief being that once planners develop a combat-effective division, its subordinate units will also be combat effective. The top down system is reliant on statistical analysis and combat modeling to determine the combat effectiveness of higher-level organizations; thus, at lower levels it may yield less valid results. As this study focuses on attempting to determine the optimum rifle squad organization, the bottom up technique is likely to yield more valid results.

#### Developing a Lighter, More Deployable Force

The US Army is currently taking the first steps in a future transformation that has been evolving over the last fifty years. General Shinseki's desire to make heavy forces lighter and thus more deployable, while giving light forces greater tactical mobility and capability, is not a new concept. The analysis of the evolution of the rifle squad shows several recent examples of similar attempts over the last fifty years.

During the 1960s, military leaders saw the need to develop a more responsive force, capable of rapid strategic deployment. When attempting to design a more rapidly deployable force, the first step is always to look for items, both personnel and equipment, that can be cut from the current force structure to, in essence, lighten the load. Both the MOMAR and ROAD changes of the early 1960s sought to do just this. The ROAD changes resulted in the removal of one rifleman from the eleven-man infantry rifle squad in an effort to reduce the load. The DIV 86 and AoE studies also included the issue of rapid strategic deployability, primarily in developing light infantry divisions. Both of these studies further cut the squad to nine men, primarily in the interest of lightening the load. Thus, the US Army is not breaking new ground in its quest for enhanced capabilities to facilitate a reduced force structure.

### Emerging Technologies

As one reviews the various studies of the last fifty years that shaped the evolution of the infantry rifle squad, one clearly sees a reliance on emerging technology. Senior leaders within the US Army seem continually enamored with technology, seeking that magical panacea which will greatly increase the army's capability, thereby allowing the reduction of force structure. Throughout the years, past military leaders and force developers have sought this same technological advantage.

As one reviews the studies of the 1960s, the overreliance on emerging technologies, in the form of better weapons and communications equipment, illustrates the danger of this logic. The emergence of the M60 GPMG, the M79 single-shot grenade launcher, and enhanced communications equipment was used to argue for the ROAD changes which removed one rifleman from the infantry squad. Subsequent studies, along

with combat operations in Vietnam, determined that the advent of these technologies did not warrant the reduction in force structure.

Perhaps the greatest weakness in relying on emerging technology to allow reduction in force structure is the fleeting nature of this advantage. New technology often gives one side an advantage, but it immediately causes the other side to seek technology or tactics to counter its disadvantage. As this occurs, the side that thought it had gained an advantage over the enemy is left with nothing but a reduced force structure. Thus, technology does not offer the advantage that many believe, allowing a reduction of forces.

#### Analysis of the Infantry Rifle Squad

This study outlines the steps taken by senior army leaders since the end of World War II, as they attempted to make sound decisions regarding force structure. As the US Army again wrestles with similar decisions, the senior leadership must focus on several areas. First, combat effective units are best built using the building block approach, developing lower level units initially, and then grouping them to form larger organization. Secondly, the measure of combat effectiveness for the infantry rifle squad must be in its ability to conduct fire and maneuver. Thus, in designing the Objective Force, senior leaders must first start by designing an optimal rifle squad organization that provides this critical capability of fire and maneuver. Based on the historical analysis of the evolution of the rifle squad since World War II, two basic organizations emerge: the nine-man rifle squad and the eleven-man rifle squad, both squads being composed of balanced fire teams. This study will now analyze these two organizations based on the evaluative criteria of control, sustainability, flexibility, and lethality.

This study must compare these two most prevalent rifle squad organizations, using objective evaluative criteria to separate emotion from logic, allowing for determination of the optimal organization for providing the capability of squad-level fire and maneuver. It will become necessary to revisit past studies to further analyze these organizations using the evaluative criteria.

### Control

Based on historical analysis, the issue of control is fundamental to developing the optimal rifle squad organization and is thus mentioned in nearly every significant study. In this case, the issue of control affects the fire team, since the squad leader controls only his two fire team leaders, who, in turn, control their teams. Control can be viewed not only in terms of maneuver, but also in controlling the volume and dispersion of fire delivered by the team, thereby affecting the lethality of the unit. The 1946 Infantry Conference set the maximum number of subordinates that one man can control at eight soldiers.<sup>1</sup> Many military professionals who believe that controlling eight men exceeds the capability of the average leader have questioned this number. Following the Korean War, the 1956 ASIRS study set limits of control from four to eight subordinates.<sup>2</sup> The IRUS study determined that control is best facilitated by a one-to-four or one-to-five leader-to-led ratio.<sup>3</sup> Since the squad leader must only control his two fire team leaders, the issue of control ultimately affects the size of the fire team. Thus, one can determine that the fire team size allowing for optimal control is not greater than five men, thus not exceeding a one-to-four leader-to-led ratio.

Both proposed squad organizations meet this criterion. As it is assumed that a lower leader-to-led ratio is desirable, the nine-man squad, in its base form, is slightly

more controllable than the eleven-man squad. As the study shifts to an analysis of sustainability, one sees that the nine-man squad and the issue of control must be revisited.

### Sustainability

Sustainability was a recurring issue throughout many of the past studies. This evaluative criterion examines how well an organization is able to sustain casualties and still continue to perform its mission. Once the squad is organized into fire teams, the issue of sustainability determines how resilient the organization is and at what point the unit must reorganize into a single entity. As stated in chapter 4, Vietnam combat veterans believed that the squad lost its capability to function with fire teams when strength fell below eight men.<sup>4</sup> When the squad no longer functions with a fire team system, the capability to conduct squad-level fire and maneuver is effectively eliminated. This potential loss of squad-level fire and maneuver capability makes the issue of sustainability perhaps the most important evaluative criteria.

Obviously, the eleven-man squad is significantly more sustainable than the nine-man squad. The nine-man squad must lose only two soldiers in order to necessitate reorganization into a single entity (a 22 percent casualty rate), while the eleven-man squad requires reorganization only after suffering four casualties (a 36 percent casualty rate). Thus, the eleven-man squad is more likely to retain its fire team organization, hence the critical capability of squad-level fire and maneuver.

As stated during the discussion of control, the issue of sustainability affects control of the nine-man squad. Since the nine-man squad is so limited in terms of sustainability, it becomes very likely that this squad will suffer casualties and be forced to revert to a single entity. If this reorganization occurs, the squad leader suddenly faces a

far greater challenge in terms of control. The leader-to-led ratio may potentially be as high as one to six or one to seven. In this case, the nine-man squad loses all advantage that it had over the eleven-man squad in terms of control.

### Flexibility

Flexibility is defined as the squad's ability to perform a variety of missions. Either squad organization is capable of conducting "full spectrum operations," as required by FM 3-0, *Operations*. The primary capability that the rifle squad must maintain in regards to flexibility is the ability to conduct squad-level fire and maneuver. At the outset, both squad organizations are capable of fire and maneuver to varying degrees. As previously stated, the evaluative criteria are related; thus, the issue of sustainability resurfaces, limiting the nine-man squad's capability to continue to conduct fire and maneuver as it suffers casualties. As shall be seen, the issue of lethality also factors into the squad's capabilities to conduct fire and maneuver. Based on interrelationships within the evaluative criteria, the eleven-man squad is clearly more capable in terms of squad-level fire and maneuver and overall flexibility.

### Lethality

Lethality, being a function of the squad's firepower and destructive potential, leads to the analysis of the unit's weapons mix and squad size. In the case of the two-squad organizations, the only difference in weapons mix comes as a result of two additional riflemen in the eleven-man squad.

Many readers might question the significance of two "ordinary" riflemen, believing that they have limited effect on the squad's potential lethality. Nothing could

be further from the truth. One must recall that the ultimate objective of squad-level fire and maneuver is to assault an enemy position. Leading up to the final assault, weapons, such as the SAW and the dual-purpose weapon, are more effective at suppressing the enemy than an individual rifle; thus, they are significant when the team establishes a base of fire to overwatch the maneuver of the other team. As the squad begins the final assault, whether clearing an enemy bunker complex or a building, the rifle gains great significance, due to its smaller size and maneuverability in tight environments. Thus, lethality must be viewed as not only putting out a high volume of fire, but also controlling the unit's fire to achieve maximum effect.

As previously stated, there exist interrelationships among the evaluative criteria. The criterion of control affects lethality, as the fire team leader must ensure that his team delivers a high volume of fire against the enemy. The fire team leader must also ensure that his subordinates mass their fires as necessary to allow the maneuver of the opposite team, thus increasing the lethality of his team.

Again, the eleven-man squad is obviously superior to the nine-man squad in terms of overall lethality. Due to its larger size, the eleven-man squad is capable of delivering a greater volume of fire against an enemy position and it carries more weight in the final assault.

### Recommendation

Prior to the recommendation, one must review the analysis of the two organizations based on the evaluative criteria. Although the nine-man rifle squad, in its base form, was slightly more controllable than its eleven-man competitor, the likelihood of casualties forcing this unit to reorganize into a single entity is great. Upon

reorganization into a single entity, the nine-man squad immediately loses any advantage in control and, even more importantly, loses the capability to conduct fire and maneuver. Thus, the issue of control is dependent upon whether the nine-man squad maintains its fire team organization. When evaluating sustainability, the eleven-man squad is far superior, able to suffer 36 percent casualties prior to reorganizing into a single entity, as opposed to the nine-man squad that only required 22 percent casualties to require reorganization. The main issue regarding flexibility is the squad's capability to conduct fire and maneuver. The eleven-man squad is clearly superior in this critical criterion. Finally, when compared in terms of lethality, the eleven-man squad again outperforms the nine-man squad in terms of volume of fire and weight in the assault. Thus, the eleven-man squad is clearly superior in terms of combat effectiveness to the nine-man squad in three of four evaluative criteria. The nine-man squad holds a tenuous claim to the fourth criterion, but only if the squad organization remains coherent.

The above analysis clearly shows that the eleven-man infantry rifle squad is superior to the nine-man squad and should be the basis for forming the Objective Force. Based upon a historical review of the evolution of the infantry rifle squad since World War II and an analysis of the two most prominent squad organizations, the eleven-man squad clearly provides the infantry with the optimal organization to allow squad-level fire and maneuver. It is contingent upon the US Army's senior leadership to avoid the mistakes of the past, design this force from the bottom up, resist the urge to impose personnel constraints that yield less capable units, and, above all, place combat effectiveness above all other considerations.



Military leaders and force developers are left to determine what the critical requirement for the infantry rifle squad is, rapid deployability or combat effectiveness. The question becomes, Is the US Army developing its units to get to the fight quickly or to be most effective once in the fight? Too often, past military leaders have erred on the side of enhanced strategic deployability or personnel issues, giving the infantry a squad organization with limited combat effectiveness at best. Understanding that a balance must be struck, history clearly shows that to fall below eleven men in an infantry rifle squad all but eliminates the capability of the squad to conduct fire and maneuver. Without the capability of fire and maneuver, the squad's combat effectiveness is diminished to the level of a large fire team, and the US Army infantryman is at a great disadvantage on the modern battlefield.

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<sup>1</sup>The Infantry Conference, *Report of Committee B*, T-18, 4.

<sup>2</sup>Havron et al., *A Research Study of the Infantry Rifle Squad TOE*, 2.

<sup>3</sup>US Army Combat Developments Command, *Infantry Rifle Unit Study, 1970-1975, Phase I, Field Experimentation*, 2-27.

<sup>4</sup>Williams and Homesley, 16.

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