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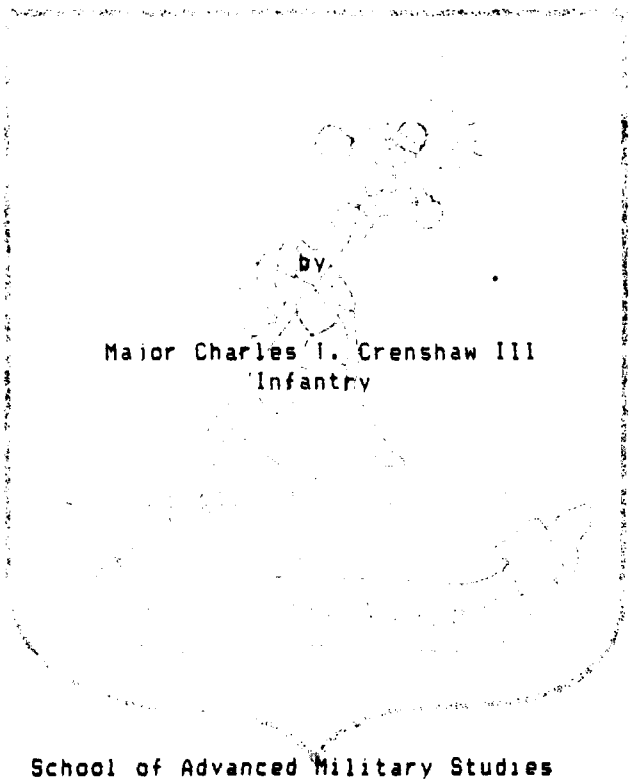
Volume of Fire as an Effective Measurement of Infantry Performance In Battle - The Impact on the U. S. Army Decision to Organize Five New Light Infantry Divisions



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Some conclusions drawn from this investigation are: volume of rifle fire probably has not been an effective measurement of the performance of infantry units in combat; rather than rifle fire by individual riflemen, other elements of combat power such as machine-guns, mortars, artillery, and personal initiative of individual

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ABSTRACT

Volume of Fire as an Effective Measurement of Infantry Performance In Battle -- The Impact on the U. S. Army Decision to Organize Five New Light Infantry Divisions, by Major Charles T. Crenshaw III, USA, 45 pages.

This study investigates the issue of volume of fire in infantry units to determine its specific impact on the effectiveness of such units. The design criteria, organization for combat, organic systems, and concepts for deployment of the new U. S. Light Infantry Division are presented and assessed. Various techniques to determine actual volume of rifle fire delivered in combat are reviewed to develope an appreciation for how many riflemen actually responded in combat. S. L. A. Marshall's research efforts during both World War II and the Korean War are helpful in this particular effort. Finally, a series of case studies, one from each of the theaters in World War II and one each from the Korean War and Vietnam, are presented to determine if rifle fire has been the decisive factor in battle.

Some conclusions drawn from this investigation are: volume of rifle fire probably has not been an effective measurement of the performance of infantry units in combat; rather than rifle fire by individual riflemen, other elements of combat power such as machine-guns, mortars, artillery, and personal initiative of individual soldiers appear to have been decisive in combat; and the Army should continue to closely study the light infantry divisions, possibly at the National Training Center, to continue to modify the organization as testing reveals shortfalls in its structure.

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I. INTRODUCTION

As the branch of the Army which is trained, equipped, and organized to fight on foot, the infantry has endured as the backbone of the American Army since the War of Independence (1775-1783). During the Colonial period, American colonists organized units of light infantry, and utilizing Indian tactics, defeated some of the best forces that Europeans could muster. (1) Half a century later during the American Civil War (1861-1865), infantrymen continued to dominate the battlefield. The principal tactic employed was that in which one element would advance in rushes while another element would support with fire to reduce enemy interference. Tactical victory continued to be determined primarily by infantry action. (2)

Infantry actions in World War I (1914-1918) became more complicated. The appearance of the machine-gun, delivering more concentrated fire than several infantry squads, caused infantrymen to rise reluctantly from the prone position and advance by rushes toward an enemy occupied position as they had done in the past. No longer could infantry actions alone win on the battlefield. Infiltration tactics under the cover of smoke preceded by artillery concentrations began to be used. It was apparent that the infantry's success on the battlefield depended on strong artillery support and therefore mortars and howitzers became organic to infantry units. (3)

During World War II (1939-1945) and the Korean War (1950-1953), the infantry enjoyed enhanced mobility but continued to use tactics similar to those seen earlier in World War I. In addition to mortar and artillery

support, infantry units also became dependent upon combat aviation and tanks when available. Coordination between the assaulting infantry units and these various support elements improved through practice. For example, the shifting of friendly indirect fires generally occurred as the infantry advanced to within approximately 75 meters of the objective. Infantrymen still were the dominant force on the battlefield, but assistance from supporting elements was growing.

Since the Korean War, infantrymen have continued to play a prominent role in military engagements. (4) During the Vietnam War, helicopter gunships armed with rockets and mini-guns as well as tactical airstrikes joined the growing list of support elements enhancing the effectiveness of the infantry units in combat. Tactics once again changed accordingly from the traditional "fire and maneuver" to "maneuver and fire". (5)

Thus, while the infantry has remained the backbone of the U. S. Army, improved support elements have contributed significantly to success of infantry on the battlefield. However, the Army leadership in their efforts expeditiously to develop the new light divisions have either ignored or at least drastically underrated the contributions of supporting elements such as mortars and artillery. Instead, they have focused primarily on increasing the number of riflemen, apparently assuming that volume of rifle fire is an effective measurement of infantry performance on the battlefield. On the contrary, a review of the U. S. Army's past experiences in combat suggests that volume of rifle fire is not a valid measure of infantry effectiveness, and therefore the new light divisions may have been organized on a faulty premise.

The purpose of this study is to investigate the issue of the volume of rifle fire in infantry units to determine its specific impact on the effectiveness of such units. Of particular interest will be design criteria, organization for combat, organic systems, and concepts for employment of the U. S. Light Infantry Division. Various techniques to determine or document volume of rifle fire actually delivered in combat will be reviewed, not to evaluate their accuracy as measurement tools, but to develop an appreciation for how individual riflemen actually respond in combat. Approximately how many soldiers do fire their weapons? Ardant du Picq's studies of ancient warfare, S. L. A. Marshall's research efforts in both World War II and the Korean War, and impressions from American infantrymen in Vietman will be considered. Finally, a series of case studies, one from each of the theaters in World War II and one each from the Korean War and Vietnam, will be presented to determine if rifle fire was in fact decisive. At this point, the issue will not be how many soldiers fired their weapons, but instead, whether volume of rifle fire itself is a decisive factor in battle. Other aspects of combat power will be suggested as being perhaps more decisive. With this background, the outcome of small unit battles will be presented along with some problems inherent in the new light infantry division organization.

II. THE U. S. LIGHT INFANTRY DIVISION

The following design criteria for the U. S. Light Infantry Division were established at the August 1983 Army Commanders' Conference:

1. Light forces structured to increase capability while incorporating a division design of approximately 10,000 soldiers.
2. Design would be optimized for employment at the lower end of the conflict spectrum in a contingency mission, but retain utility for employment at higher conflict levels (NATO).
3. The division would deploy in 400-500 aircraft sorties.
4. Design would contain approximately 50% infantry.
5. The division would have nine maneuver battalions. (6)

As the designers focused on the ceiling of 10,000 soldiers, decrements were made in the combat support and combat service support areas with the intention of maintaining combat power. (7) Thus, the division was built around a core of "fighters" designed primarily to combat opposing light forces in all terrain and environmental conditions. Heavy forces could be opposed in restricted terrain. (8)

The organization of the new light infantry division includes division troops, three infantry brigades consisting of nine maneuver battalions, a division artillery, a combat aviation brigade, and a division support command. (9) A significant factor in this organization is the resulting foxhole strength of approximately 3400 soldiers, amounting to roughly 33% of

the assigned division strength. This figure compares favorably with the current U. S. airborne and air assault divisions, each of which provide a foxhole strength of 25% of their assigned strength. To provide this large core of fighters, the organization features combat support and combat service support units capable of providing only minimal essential support, but possessing the capability to receive and integrate supporting augmentation forces when needed. Vehicles in this organization are also very limited to insure rapid deployability in fewest possible aircraft. (10) It should be noted that this infantry division, unlike its predecessors, has neither a mechanized battalion nor an armored battalion.

The nine maneuver battalions constitute the nucleus of the light division. Each battalion contains a headquarters and headquarters company and three rifle companies. All elements are basically footmobile since the battalion contains only 34 high mobility multipurpose wheeled vehicles (HMMWVs) and 15 motorcycles, all of which are located in the headquarters and headquarters company. Until recently, mortar assets in each infantry battalion consisted of only four towed 107mm mortars under battalion control. However, a recent change to the design provides six additional 60mm mortars with crews (two in each rifle company), giving each battalion a total of ten mortars, three less than were found in the H-series infantry battalion. The greatest disparity, however, is found in the number of medium and heavy anti-tank weapons. Each light infantry battalion has 4 HMMWV mounted TOWs compared to the H-series infantry battalion which had 18. (11) Similarly, the new light battalion has 18 dragons vis-a-vis 27 in the H-series battalion. The new light battalions have 76 machine-guns compared to

approximately 100 in the H-series battalion.

The light infantry division's combat aviation brigade (CAB) has the primary missions of reconnaissance, battlefield mobility, and destruction of enemy forces. The brigade contains a headquarters and headquarters company, a reconnaissance squadron, an attack helicopter battalion, and two combat aviation companies. The attack helicopter battalion constitutes the division's primary anti-armor system and contains a headquarters and headquarters company and three attack helicopter companies, each with seven attack helicopters and four scout helicopters. (12) This battalion could assist ground elements by dominating avenues of approach and other terrain for short periods. It usually would not be attached below division level. Instead, it would generally be employed in mass. (13)

The primary fire support element in the division, the Division Artillery (DIVARTY), contains a headquarters and headquarters battery and three 105mm field artillery battalions, allowing one battalion in direct support (DS) of each maneuver brigade. The 105mm was chosen instead of the 155mm because of the deployability penalty of the 155mm howitzer. (14) A recent addition to the DIVARTY, however, has been a 155mm howitzer battery in recognition of the artillery deficiency of the division. Like the other austere elements of the division, DIVARTY is capable of rapidly receiving augmenting assets from corps artillery. However, its current organization provides little organic general support (GS) field artillery and only limited organic resupply capability. (15)

The division's engineer battalion contains a headquarters and headquarters company and three engineer companies. Therefore, each

maneuver brigade usually has an engineer company in direct support. However, within the brigade, engineer support generally is on an area basis since each engineer company has only two platoons. The engineer battalion provides minimal essential mobility and countermobility support leaving survivability as the responsibility of the infantry units. (16)

The air defense battalion of the new light division likewise exemplifies the idea of providing minimum essential support while maintaining the capability to accept augmentation from corps. The limited size of the battalion precludes a direct support relationship with the maneuver brigades, and instead necessitates an area support system with weapons arrayed to protect critical assets identified by the commander. Manportable surface to air missiles (MANPADS) are the primary means of providing air defense for the other potential targets and are scattered throughout the division's area of operation among military police squads, division and brigade headquarters, heavy mortar platoons, and artillery batteries. These limited air defense assets are thought to suffice since hostile aircraft are expected to consist primarily of helicopters at low altitudes rather than high performance aircraft. (17)

The new light infantry divisions are intended to provide the Army with the capability to respond to worldwide contingencies in which specialized forces such as airborne, air assault, and motorized infantry divisions could not maximize their special design characteristics. (18) The division can deploy rapidly to stabilize a situation, demonstrate force to deter potential conflict, or possibly secure a base for future operations. It is not designed to fight its way in and can only remain in a theater

for 48 hours without external support.

Division operations would involve small, widely dispersed combat forces. Maneuver would generally be on foot and would involve the positioning of forces on the best terrain from which to attack or defend against light enemy forces. In rugged terrain, the division could also oppose limited heavy forces. Some maneuver over wide distances could be conducted utilizing organic ground and air assets. (19)

The new light infantry division was therefore designed with a primary focus on deployability. In order to deploy in 500 aircraft sorties or fewer, division designers were forced to economize in some critical areas. The lightweight 105mm howitzer was chosen over the 155mm howitzer for this reason. Limited engineer assets cause engineer support within brigades to be generally on an area basis. Air defense support is also on an area basis, attempting to array weapons to protect critical assets. Unlike previous infantry divisions, this organization has neither a mechanized infantry battalion nor an armored battalion and is critically short of heavy anti-tank weapons. Mortars and machine-guns are likewise in short supply. The unit is deployable in the designated number of aircraft sorties and the number of infantrymen on the ground has been maximized, but at a substantial price in support elements.

Though not stated explicitly in the literature, this organization was apparently designed under the assumption that the number of infantrymen in foxholes and their resulting volume of rifle fire has been the key to success on the battlefield. In the early stages of development the requirement for 50% of the unit to be infantry suggests this belief. Other

aspects of combat power do not seem to have been a factor in this organization. While combat support is a part of the division organization (artillery, engineer, air defense, and aviation), there is the recognition that these support systems are difficult to deploy, and the impression persists that they are not terribly important anyway. Because of deployability penalty, these functional areas are organized on an austere basis, and the preponderance of infantry is rationalized as being "movement effective" as well as combat effective. Light infantry's combat effectiveness may be based on a long standing myth of infantry invincibility.

III. VOLUME OF FIRE OVER THE YEARS

Pre-World War I

Prior to World War I, specific data quantifying the volume of fire by infantrymen in combat was not routinely collected, but Ardant du Picq did suggest some insights in this area based on his observations during the Crimean War and his studies of ancient warfare. (20) From his studies he became convinced that, "centuries have not changed human nature." (21) He therefore stressed moral forces above all else in battle. According to du Picq, "A charge succeeds because the defense falls back before the attackers make contact, or fails because it stands firm. The control of fear is the crucial element." (22)

Referring to nineteenth century European warfare, when the primary infantry weapon was the breech-loading rifle and units were generally controlled in tight formations of several ranks, du Picq warned, "Let us not pay too much attention to those who in military matters base everything on the weapon and unhesitating assume that the man serving it will adopt the usage provided and ordered in their regulations." (23) He also described barbaric punishments such as blows, the whip, and executions which were incorporated into military codes to keep soldiers in place during battle. (24) He emphasized moral factors and their dominant role on the battlefield. He stressed that, "The fighting man is flesh and blood. He is both body and soul; and strong as the soul may often be it cannot so dominate the body that there is no revolt of the flesh, no mental disturbance, in the face of destruction." (25)

In describing soldiers' reactions on the battlefield, he claimed, "On the field of battle death is in the air, blind, and invisible, making his presence known by fearful whistlings that make heads duck. During this strain the recruit hunches up, closes in, seeking aid by an instinctive unformulated reasoning. He figures that the more there are to face a danger the greater each one's chances of escaping. But he soon sees that flesh attracts lead. Then possessed by terror, inevitably he retreats before the fire. . ." (26)

Thus, even though systematic attempts apparently were not made during the nineteenth century to study the volume of fire delivered by infantrymen during combat, du Picq did recognize that one should not assume that all soldiers will fire and may be saying that it was not important anyway. Harsh control measures were used to keep soldiers in formation on the battlefield with the partial presumption that tight, disciplined formations and drill produced effective volume of fire. Regulations of the period required soldiers to fight with their weapons and enforcement of such regulations remained a challenge and the responsibility of leaders.

World War I

As the United States prepared to enter World War I and 13 1/2 million Americans between the ages of 21 and 31 registered for the first draft registration of 1917, (27) the field of psychology in the Army began to develop. However, research methods were not particularly sophisticated and psychologists were primarily involved in intelligence testing and personnel screening and selection, attempting to divert soldiers psychologically

unsuited for battle from combat assignments. Not until World War II did studies include analyses of morale, attitude development, and actual battlefield behavior by infantrymen in combat. (28) Therefore, in an attempt to capture evidence concerning actual battlefield performance by infantrymen, researchers had to rely on the accounts of battlefield eyewitnesses.

These eyewitnesses, which generally included small unit leaders and soldiers, always seemed to stress the extreme aggressiveness of the American doughboy. (29) Their memories were of American units charging forward and defeating Germans well ahead of the British and French soldiers on their flanks. Several U. S. divisions such as the 42d Division even earned reputations for taking very few prisoners. Not surprisingly, these eyewitnesses generally claimed that approximately 80% of American infantrymen fired their weapons when in contact with the enemy. (30) Thus, after World War I American enthusiasm and doughboy war stories were essentially all researchers could count on to assess the volume of fire by American infantrymen in combat.

World War II

By the outbreak of World War II, the United States Army had grown more interested in sponsoring formal systematic studies of human behavior on the battlefield. Exactly what spurred this new interest is not clear, but one could speculate that the U. S. Army's growing tendency to focus on firepower rather than maneuver contributed in some degree. The best known of researchers in this area was S. L. A. Marshall. He had enlisted in the Army

at the age of sixteen during World War I and within three years had commanded three companies in the American Expeditionary Force. During World War II, several teams of civilian researchers employed by the U. S. Army under his supervision conducted approximately 400 exhaustive post-combat interviews with survivors of various engagements to reconstruct recent combat actions. Such interviews were conducted in both the European and the Pacific theaters. These researchers' methods closely resembled Ardant du Picq's approach of asking a series of detailed questions of combat participants.

The procedures for the conduct of company level interviews, as described in an obscure appendix of S. L. A. Marshall's book Island Victory written in 1944, were very consistent. (31) Once the division or regimental historical officer, through monitoring unit journals, determined that a significant engagement had taken place, he notified the involved chain of command and requested permission to conduct the interview. The interview was then scheduled for the entire company plus the battalion training officer or executive officer if possible. However, prior to the actual conduct of the interview, the historical officer insured that he understood how the company action was related to the battle as a whole and to the movements of the regiment. During the three to four hour interview, all soldiers were encouraged to participate, as the historical officer stressed, "Here, you are all equal as witnesses." (32) As the story was pieced together by the group, the historical officer constantly searched for cause and effect. Hearsay evidence was rarely used except in the case of a living soldier explaining what his dead or badly wounded comrade had done or

had said. Such information was found to be extremely accurate. (33) Through this exchange of information between the participants of recent combat, Marshall and his fellow researchers were able to recapture the details of combat action and determined such things as who fired and who did not.

Based on his many interviews, Marshall arrived at some conclusions concerning the volume of fire delivered by infantrymen which have since been a source of considerable concern and controversy within the military. Regarding the number of soldiers who actually engaged the enemy when directly confronted, Marshall wrote, "We found that on an average not more than 15% of the men had actually fired at the enemy positions or personnel, with rifles, carbines, grenades, bazookas, BAR's, or machine-guns during the course of an entire engagement. Even allowing for the dead and wounded, and assuming that in their numbers there would be the same proportion of active firers as among the living, the figure did not rise above 20 or 25 percent of the total for any action." (34) His findings further suggested that even in well-trained and battle experienced troops, this figure did not exceed 25 percent. (35) Regarding which soldiers actually fired, he claimed, "Usually the men with heavier weapons, such as the BAR, flame thrower, 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." (36) He found that the majority of these active firers used more than one weapon. In other words, if their machine-gun ran out of ammunition or malfunctioned they would pick up a rifle and when it ceased to function they would throw grenades.

Korean War

When war broke out in Korea in 1950, Americans had developed additional research methods to study the psychology of the soldier. Obviously, S. L. A. Marshall's findings regarding the individual soldier's combat performance during World War II had alarmed the Department of the Army. In a dedicated effort to increase the number of "fighters" in combat infantry units, the Department of the Army sponsored three separate study groups during the Korean Conflict: Human Resources Research Office (HumRRO) of George Washington University, Personnel Research Branch (PRB) of the Department of the Army, and Operations Research Office (ORO) of Johns Hopkins University. Because these three investigations were so similar, only the first one mentioned will be described in this paper.

The research team from the Human Resources Research Office (HumRRO) of George Washington University went to Korea in July, 1953. They worked with 647 subjects in companies from three different divisions. Their plan had originally been to talk individually with all available survivors immediately following a particular engagement and receive the soldiers' detailed description of what had happened. Such a detailed and time consuming method would have, with some degree of accuracy, determined the number of fighters (firers) versus non-fighters (non-firers). However, difficulties soon arose in getting the interviews conducted immediately after engagements and in most cases several weeks would elapse between the two events. Also, since most of the enemy contact during these later stages of the war was at night, many of the men had actually witnessed very little. Consequently, the

research rs settled for a less ambitious approach of "asking combat survivors to name the two or three soldiers they would most and least like to have fight alongside them, and to support their choices with incidents from recent combat experience." (37) This adjustment to their process made it difficult for them to determine accurately the ratio of fighters to non-fighters since each soldier interviewed was asked to provide two or three examples in both categories.

From this information, however, fighters and non-fighters were identified. Fighters generally met one of the following: "(a) Two or more men gave specific examples of his good performance, or (b) if one man gave a specific example of good performance and it was known that the subject had received or had been recommended for a decoration for valor in combat." (38) A soldier was characterized as a non-fighter if "(a) Two or more men gave specific instances of his poor behavior, (b) if he himself admitted his performance was inadequate, or (c) in some instances, if only one other man gave a specific instance of his poor performance, provided, in the judgment of the interviewer, the man giving the information was an impartial and competent observer (particularly if there was evidence that no other man being interviewed could have witnessed the incident)." (39)

A fascinating aspect of the study was the descriptions provided by those soldiers of combat performance which in their minds warranted either "fighter" status or "non-fighter" status. For example, the following brief account demonstrated a "fighter's" performance:

> "On the night of 6 July 1953, Able Company of the 17th Infantry Regiment was attacked by the Chinese and some

of its positions were overrun. A PFC from this company accompanied by another man, went up to the trench toward the Chinese and set up a barbed wire block. The next morning, he and two other men knocked out three enemy-held bunkers with a 3.5 rocket launcher, which none of them had fired since basic training." (40)

A couple of examples of "non-fighters" were:

". . . It was said that other men in the unit to which Soldier C belonged had to fire over his head to get him to fire. He 'bugged out' saying he 'couldn't take it any more.' He was gone for three days before being picked up by MP's.

During a barrage, Soldier D sat on the floor of his bunker crying. He said he couldn't fire." (41)

The 647 soldiers that were interviewed listed more than 1,000 names. Of these, 345 were classified as fighters or as non-fighters based on their actions in combat. Through this process, those soldiers interviewed described a sample of fellow soldiers of which 54% were fighters and 46% were non-fighters. (42)

The methodology was predicated, like Marshall's previous studies in World War II, on the assumption that the most combat effective soldiers were ones who fired their weapons in combat rather than performing other combat related activities such as communicating on the radio, moving to positions, emplacing mines, or encouraging others. It appears to have been assumed that those nominated by their peers as fighters would also be the premier

firers.

In addition to the three Department of the Army studies, S. L. A. Marshall continued his post-combat mass interviews during the Korean War. Using these same techniques practiced in World War II, his data concluded that the proportion of fighters had been increased to the extent that approximately 50% of the men now fired their weapon. (43) He cited the work of non-commissioned officers supervising the fire along the line as one contributing factor.

Through this period, the prevailing assumption throughout the U. S. Army was that volume of rifle fire was the key to success on the battlefield. S. L. A. Marshall had revealed a perceived deficiency in this area during World War II and increased research efforts employed during the Korean War just a few years later reinforced Department of the Army concern. Rather than questioning this assumption, they preferred to continue to investigate volume of fire as the only true measure of infantry effectiveness. The development of the new light infantry division featuring increased number of infantrymen suggests that this assumption still prevails in the U. S. Army today.

Vietnam

To determine the actual performance of infantrymen in combat during this war, one must rely predominantly on the accounts of participants, since formal research teams such as those utilized in World War II and Korea did not collect data in Vietnam. The university community in the United States was so hostile to the Vietnam War that most social scientists would not

participate in research presumably designed to support operational requirements. (44) Therefore assets simply were not available to investigate further this volume of fire issue. While S. L. A. Marshall did observe some units in Vietnam and wrote several related books, this author is not aware of the conduct of any post-combat mass interviews. However, Marshall did report that at Ia Drang, "Some infantrymen bolted into the underbrush, that some men couldn't bring themselves to use their weapons, and that some men cried." (45) One soldier admitted, "If I saw a Viet Cong and he didn't see me, I would know that he had a wife and children, and I wouldn't shoot him." (46) Another soldier remembered, "I saw guys get themselves killed and almost get an entire platoon wiped out because they panicked or because they got wounded and couldn't deal with their own blood." (47)

Many soldiers reported being ill-prepared for the chaos of the battlefield, the long periods of inactivity interrupted by brief engagements, and the confusion which inevitably ensued following contact. Companies got so mixed up that they soon had no more organization than a crowd at a train station. (48)

Thus, in Vietnam as in our previous wars, there were both fighters and non-fighters. While a percentage of each category is not discernable, this recognition of their existence does demonstrate a very significant area in which a war, seemingly different from previous ones in so many respects, did still retain some important common features and characteristics suggesting potential valuable lessons to be learned.

Summary of the Issue:

Obviously over the years, research techniques utilized in studying this volume of fire issue grew increasingly more sophisticated up through the Korean War era. Ardant du Picq, through detailed questionnaires, personal studies of ancient warfare, and probably a concerned commander's intuition, recognized that all soldiers did not fire their weapons. His intent was not to determine any specific numbers, but instead, to study the realities of combat. Several factors, to include the short period of several months that the United States actually participated in World War I, contributed to the lack of interest in the issue during this period. Apparently, the limited inquiries that were made occurred well after the fact and were not representative of a coordinated effort by any particular individual or group. Marshall was able to formalize study efforts during World War II and his grim conclusions probably contributed to the additional research teams found in Korea just a few years later.

From such diversified studies an accurate volume of fire profile does not evolve. The studies do however demonstrate that a perceived problem has existed. Despite the fact that the volume of fire by infantrymen during World War I was reported to be relatively high at 80%, both the World War II and the Korean War experiences suggested far lower figures, 15%-25% and 50% respectively. Lack of interest by researchers during the Vietnam War precluded an opportunity to formally support or refute these earlier figures.

Thus, through the Korean War, the U. S. Army research focused on volume of fire as the measure of infantry effectiveness rather than seeking

alternative explanations for success in combat. In retrospect, one wonders why researchers did not question the validity of this measurement since surveyed American units, composed of such a low percentage of "fighters", must have been generally successful in combat. A study of actual small unit actions might have revealed other factors more decisive than rifle fire.

IV. CASE STUDIES

Surveys cited earlier provided general observations on volume of fire, but lacked much of the detail available in case studies. For the most part they were "tactics neutral" in that researchers were not concerned with whether the surveyed units were attacking or defending. Therefore such issues as unit locations, size of sectors, and visibility were not addressed. Outcome of battles did not appear to be very significant either. Therefore the surveys tended to reflect a broad brush approach with the primary focus on quantifying the number or percentage of firers versus non-firers.

Case studies, on the other hand, provide an excellent source of information on small unit combat actions. While no two combat situations are exactly alike due to a multitude of variables such as terrain, weather, morale and training of troops, etc., common threads should be identifiable and general observations obtainable. However, one must exercise extreme caution in selecting case studies insuring that they are indicative of fighting during a given period in a particular theater. The four case studies in this paper meet this criteria. They resulted from an investigation of several small unit actions during each period and seem to typify infantry action of their respective war.

351st Infantry Regiment's Attack of Santa Maria Infante (May 11-14, 1944)

In the spring of 1944, strong Allied forces were concentrated on the west side of the Italian peninsula preparing to renew the effort stopped by

the winter and the heavy German resistance. On May 11, 1944, the U. S. 88th Infantry Division, as the main effort of II Corps, began an attack north generally toward Ausonia along the boundary of two German divisions, the 71st Light Infantry Division and the 94th Infantry Division. The division received massive artillery support. In addition to its organic artillery, the 88th Division had the 6th Field Artillery Group, with two battalions in direct support. The II Corps also had several field artillery battalions in general support. The division's main effort was the attack of the 351st Infantry Regiment to seize Santa Maria Infante. (49) The actions of this regiment will be the focus of this discussion.

Defending in the sector against the 351st Infantry was the 94th Fusilier Reconnaissance Battalion of the 71st Infantry Division. This battalion consisted of four companies with an estimated total strength of 400-500 men and defended across a front of approximately 1200 meters. Additionally, as the 351st Infantry approached Santa Maria astride the narrow Minturno-Santa Maria road, it was also opposed by elements of the 267th Grenadier Regiment of the 94th Infantry Division occupying a ridge overlooking the road. The approximate strength of this element was 300-400 men. Both enemy units had heavy fire support. (50)

The terrain in the area was generally rough causing movement to be slow. Many ridges were cultivated by use of terraces. Vegetation was sparse and usually only ankle-high. Most trees had been splintered by artillery. The ridges contained numerous sunken roads. (51) The terrain generally favored the defender in that movement was difficult and there was limited cover and concealment.

The 351st Infantry's plan of attack specified that the 2d Battalion, making the main effort, would attack approximately 2,000 meters up the road from the south, seize and hold the high ground to the north and east of the town, and reorganize to repel counterattacks. The 3d Battalion would support the 2d Battalion's attack with machine-gun and mortar fire from two hills east of the road and pass through 2d Battalion after the town was captured. The 1st Battalion would also give supporting fire from a ridge east of 3d Battalion while maintaining contact with the adjacent unit on its right. It would follow the other battalions after the town was captured. Additional supporting elements included an anti-tank company, a tank platoon, a chemical weapons battalion, and a tank destroyer company. (52)

The attack began late on the evening of May 11, 1944, and continued for 3 1/2 days. From the beginning the operation was characterized by confusion to the extent that during initial hours of darkness, all anyone was likely to know was that which was happening a few feet away. (53) Units larger than squads were habitually separated.

Mortar and artillery fires frequently kept units pinned down and kept telephone lines destroyed. Unfortunately, the most devastating example of artillery accomplishments was the damage done to the U. S. 3d Battalion on the second day of the operation. Artillery fire on its Company K position had reduced that company to approximately one-half of its original strength. Company I was at two-thirds strength and Company L also had suffered large losses. The 3d Battalion S-3 reported, "I just saw two years of training go up in smoke - my men - about half of them - almost all the leaders." (54)

Machine-guns also proved very effective keeping individual riflemen

pinned down. This was especially true for the enemy who had insured that machine-guns were positioned properly with superb fields of fire. Once engaged by a machine-gun, it was extremely difficult for the surprised riflemen to regain the initiative.

Small unit leaders ranging from squad leaders to battalion commanders were able frequently to rally their units which had become bogged down for various reasons. Colonel Kendall's personal leadership of Company E of his 2d Battalion was remarkable. Upon learning that the company had stalled, he immediately took charge. For the 2d Platoon, he requested tank support. He then went to the 1st Platoon and, one squad at a time, led them in an attack of three enemy occupied houses. In the attack, Colonel Kendall successively fired every weapon he could lay his hands on. Unfortunately, while trying to throw a grenade, he was killed by an enemy machine-gun. (55)

On May 14, 1944, the 351st Infantry obtained its objective. The regiment had fought well in difficult terrain against a determined enemy. Although the unit suffered 500 casualties over three days of fighting, members of the 351st Infantry could be proud of this first offensive action by the regiment. (56)

These three and a half days of action had been characterized by confusion and slow progress by advancing units. As units bogged down, additional support became critical. Artillery and mortar fires often enabled movement to continue. As in the case of the 3d Battalion on the second day, artillery fires were often devastating. In other cases, machine-gun fire pinned down the defender and allowed the attack to continue. Therefore, in this particular engagement, responsive artillery, mortar, and machine-gun fire employed at decisive points in the battle

made the difference. Volume of fire produced by individual riflemen does not seem to have been a factor that has been stressed in the historical accounts of this battle.

7th Infantry Division's Attack on Kwajalein (February 1-4, 1944)

In February, 1944, U. S. strategic planners were seeking a weak spot in the Japanese defense of the Central Pacific. Fortunately, they realized that Kwajalein was not as heavily fortified as many other islands. A study of its defenses concluded, "The prepared defenses of this island were surprisingly weak." (57) A decision was therefore made to bypass the eastern Marshalls and strike directly at Kwajalein, the communication center for all other bases in the Marshalls.

Enemy army troops on Kwajalein consisted of the Kwajalein detachment and part of the Wotje detachment of the 1st Amphibious Brigade along with many labor troops and other civilians. The Kwajalein detachment numbered 204 men in one rifle company and one mortar platoon. The Wotje detachment totaled 729 men who had just arrived on Kwajalein the month before and therefore were not yet in position. Combat effective troops on Kwajalein at the time of the invasion numbered 1,820. (58)

The beachhead line lay about 250 yards inland. The shore rose just behind the beaches to an island rim just a few yards wide and approximately 10 feet above sea level. To the east of this high ground were marshy dips covered with thick underbrush. (59)

In the assault on Kwajalein on February 1, 1944, the 7th Infantry Division attacked with two regiments abreast, the 184th Infantry Regiment in

the north and the 32d Infantry Regiment in the south. The 184th Infantry was supported by the 57th Field Artillery battalion while the 32d Infantry was supported by the 49th Field Artillery. (60) As a result of the heavy artillery preparation by these units and the unprecedented naval fire, initial resistance was light, amounting to only a few local skirmishes in the southern sector. The results of this bombardment were so devastating that the relative effectiveness of the three types of bombardment - artillery, naval, and air, was impossible to estimate. (61) As the regiments continued to push inland, Japanese resistance stiffened as the fighting deteriorated into house-to-house combat, or more appropriately, pillbox to pillbox. (62) Responsive artillery support often enabled attacking elements to continue forward. The actions of Privates Parvee Rasberry and Paul Rober of Company K, 3d Battalion, 184th Infantry best typify this type action in which a few soldiers firing every weapon available were able to kill a disproportionate number of enemy. Coming under fire from a pillbox just twenty-five meters to their front, they instantly took cover in a shell hole and began lobbing grenades into the enemy pillbox. When these were thrown back at them, they retrieved a flame thrower and engaged with it. However, it was not until Private Rasberry crawled up next to the pillbox and threw in white phosphorus grenades that the eight occupants of the pillbox were flushed out and eliminated. (63)

The above vignette demonstrates how the most effective weapons generally proved to be artillery, flame throwers, machine-guns, and hand grenades. While tanks were generally effective also, the infantry-tank

coordination did experience problems. Often the telephones on the rear of tanks did not work and since the tanks remained buttoned up while moving forward in the assault, infantrymen had to resort to hammering on the armor with their rifles to get the attention of those inside. (64) The tanks often expended their ammunition too quickly and were forced to go to the rear to reload, leaving the infantry unsupported and more vulnerable to enemy snipers. (65) So chaotic was the close fighting that the infantryman often could not see his own neighboring element at distances exceeding fifteen or twenty meters. (66) Leaders, attempting to control their platoons, led well forward. Such intense fighting continued on Kwajalein until the afternoon of February 4, 1944,. when the 7th Division Commander, Major General Charles H. Corlett was able to report, "All organized resistance has ceased." (67)

As in most combat actions, this experience by the 7th Infantry Division was characterized by extreme chaos. Soldiers generally could neither see nor communicate with elements on their immediate flank. Amidst such confusion, the addition of more riflemen would have served only to compound the problem.

During these several days of intense fighting, two factors seem to have been decisive: artillery fires and individual initiative by both leaders and young soldiers. Artillery preparations resulted in limited initial resistance on the beach and assisted maneuver units throughout the operation. Individual initiative by soldiers like Private Rasberry allowed progress to resume after temporary delays. Again rifle fire was not emphasized.

7th Infantry Division and the Defense of Porkchop Hill Area (March, 1953)

Prior to March, 1953, the Chinese had been on the defensive. However, during that month the Chinese switched over to the offensive again on a big scale. The passive role of the earlier winter period was gone. (68)

The U. S. 7th Division was defending in the Old Baldy - Porkchop area with its 31st Infantry Regiment and an attached Colombian Battalion. The 31st Infantry commander had deployed his 2d Battalion on the left, the Columbian Battalion in the center, and the 3d Battalion on the right. The 1st Battalion was disposed with one rifle company manning a blocking position behind each of the three frontline battalions. (69)

The 7th Division was opposed by the elements of two Chinese armies. The enemy positions opposite Old Baldy were manned by the 141st Division and 67th Division manned the area east of Porkchop Hill. (70)

The terrain was extremely rugged and densely vegetated. As a result of late winter rains, mud restricted the movements of vehicles in low areas. On the evening of March 23, 1953, a mixed Chinese battalion from the 423d Regiment, 141st Division attacked Old Baldy as two companies from the 201st Regiment, 67th Division attacked the Porkchop Hill sector. Heavy mortar and artillery concentrations preceded both attacks. The Chinese had caught the Colombian Battalion on Porkchop Hill in the middle of relieving the company outpost on the hill and the battalion was overwhelmed. The 31st Regimental commander placed B Company of the 2d Battalion under operational control of the Colombian Battalion and the company arrived at Old Baldy at 2:00 A. M. and began clearing the bunkers one by one. However, as the company reached the main strength of the Chinese, the company ground to a

halt. Defenders of Porkchop Hill had equally as serious problems as L Company of 3d Battalion, running low on ammunition, pulled back from the crest of the hill. Proximity fuze fire was laid directly on Porkchop Hill while supplies were brought to L Company. (71) A Company and I Company of the 3d Battalion both attacked toward Porkchop Hill to aid L Company, also. They met light resistance and reported that Porkchop Hill had many bunkers aflame and many dead and wounded. (72)

On March 24, the 1st Battalion, 32d Regiment was placed under operational control of the 31st Regiment by the 7th Division commander and supported by tanks, this battalion assaulted Old Baldy. Chinese mortars and artillery inflicted heavy casualties on assaulting elements. Several more attempts were made by U. S. elements but all took severe losses. On March 30, the Eighth Army commander finally decided that Old Baldy was not essential to the sector and further attempts to regain it were abandoned. (73)

These two days of fighting for Old Baldy and Porkchop Hill had been very expensive to the 7th Division. There were over 300 dead, wounded, or missing in action. Most of these casualties had been inflicted by enemy artillery and mortar fires. Even though Chinese losses were between 600 and 800 men, they continued to occupy the areas because they were willing to pay the price in lives. (74)

In what appears to have been an engagement between primarily Chinese and American infantry forces, the support arms again seem to have been decisive. The attack was called off, not because American infantry failed to dislodge the Chinese defenders, but because U. S. commanders

did not want to pay the price. The support arms, artillery especially, contributed to what limited success Americans did experience, and further infantry attacks by the U. S. would have produced a slaughter.

3d Battalion, 60th Infantry and the Fight Along the Rach Ba Rai (September, 1967)

On September 12, 1967, the 2d Brigade of 9th Infantry Division and Navy Task Force 117 began a search and destroy operation against the 514th Local Force and the 263d Main Force Viet Cong Battalions. (75) Intelligence reports placed the enemy in the Cam Son Secret Zone along the Rach Ba Rai River. According to the brigade plan, Navy armored troop carriers would emplace the 3d Battalion, 60th Infantry in a position north of the enemy location while the 3d Battalion, 47th Infantry would likewise move to and occupy a position to the south of the enemy position. Together the battalions would converge on the enemy from north and south as navy gunboats provided supporting fire with 20mm and 40mm guns and 81mm direct fire mortars. (76) Unfortunately, the elements were detected moving up the river and were forced to fight their way into the area.

As the men of the 3d Battalion, 60th Infantry landed and ran just a few feet in from the river, rifle fire and sporatic automatic weapons fire from the Viet Cong forced them to the ground. While they returned fire primarily with M79 grenade launchers, friendly artillery rounds began suppressing enemy positions. Supporting fires were then lifted to allow three F-100's to make a pass, dropping bombs and napalm. Next, a second flight of two F-100's dropped bombs and strafed enemy positions

with 20mm guns before artillery fires were resumed. (77) Although these 105mm howitzers were able to reduce the volume of enemy fire and could destroy spider holes and other open firing positions, a 155mm howitzer would have been required to knock out enemy bunkers. (78)

As the men continued inland through the jungle, visibility became the biggest problem. They had difficulty locating either the enemy or their own friendly forces. Although the three companies of the 3d Battalion were within approximately 150 meters of each other, physical contact between units was difficult to establish and was a time consuming process. (79)

Finally, after advancing approximately 200 meters from the river, the men found more open terrain as Company C moved into a field of high grass and Company A moved into a dry rice paddy. Enemy small arms and automatic weapons fire resumed. Since the enemy was still difficult to locate, most friendly riflemen held their fires while forward observers called in artillery support. Fortunately, the artillery fires did suppress the enemy allowing companies to resume the advance. (80) Infantrymen, when possible, engaged with M79 grenade launchers and machine-guns while artillery support was requested.

The advance continued until 5:00 P.M. when the brigade commander ordered the battalion to halt and consolidate prior to darkness. He was willing to risk the Viet Cong escaping rather than trying to continue operations during the hours of darkness.

This type of search and destroy mission typified American operations in Vietnam, where infantry units moved up rivers by naval armored troop carriers and cross country by helicopters. Often in this situation,

infantrymen pinned down the enemy primarily with crew-served weapons until artillery or air support arrived to provide the decisive blow. Confusion dominated the battlefield, and difficulties experienced by Americans in accurately locating the elusive enemy in the jungle appeared to preclude small arms fire from being effective. Coordination between elements was always difficult and frequently impossible.

Summary of Case Studies

All cases demonstrate that support arms, leadership, and tactics, considered in total, may be more decisive than any single factor like volume of fire. When actions tended to bog down, as they so often do in small unit combat, these other factors generally enabled one side to seize the initiative and continue. Small arms fire did not appear to be decisive for several reasons. Often rifleman did not have adequate visibility on the battlefield to allow them to take aimed shots. Possibly more important, however, was their apparent preference for locating the enemy, engaging with some small arms and machine-guns to fix his location, and then calling in artillery and mortars. Therefore, as one studies the combat power of small infantry units through actual case studies, it becomes apparent that a limited portion of the combat power equation is "rifle fire". The supporting elements are far more significant.

V. CONCLUSIONS

Since Ardant du Picq's studies of ancient warfare and of the Crimean War in the mid-nineteenth century, it has been recognized that all soldiers in combat do not fire their weapons. While World War I offered no formal research efforts to support or refute this observation, S. L. A. Marshall's research through post-combat interviews during World War II did solidify this belief. He found that only 15% of the soldiers of units in combat actually fired their weapons. Even in the best units, this figure did not surpass 25%. The preponderance of the firers were those soldiers armed with the heavier weapons such as machine-guns and flame throwers suggesting that the non-firers were generally the individual riflemen.

During the Korean War, S. L. A. Marshall was joined on the battlefield by other government sponsored research teams such as representatives from the Human Resources Research Office (HumRRO) of George Washington University. Their findings closely approximated those of Marshall during the Korean War, as they both concluded that approximately 50% of soldiers fired their weapons. Therefore, the percentage of firers appeared to have increased since World War II, but remained relatively low.

Formal research teams were not sent to Vietnam. The only source of information on this subject during the Vietnam War is therefore personal accounts written by participants. While their validity might be questioned, there does exist support for the fact that the U. S. Army still had a significant number of both firers and non-firers.

In other words, during World War II, Korean War, and Vietnam War, U. S. fighting forces contained a substantial percentage of soldiers not firing their weapons. Since these forces were generally successful in tactical operations, volume of rifle fire may not be an effective measurement of the performance of infantry in combat.

In the past, particularly during World War II and the Korean War, Army battlefield research therefore focused on this ratio of fire issue rather than trying to determine exactly what did make units successful in combat. Implied in this focus was the assumption that if rifle fire is increased on the battlefield, units would be more successful in combat - infantry units are invincible if enough rifles are fired. This quantity of rifle fire could be increased by raising the percentage of firers through such means as training or by increasing the number of assigned riflemen in combat units. In the past, Marshall's works indicate that the Army emphasis was on increasing the percentage of firers, and today the approach is to pump more infantrymen into the foxholes via the new light divisions.

A review of typical small unit actions from each of these wars suggests that other elements of combat power rather than rifle fire may have been more decisive in combat. In all cases, confusion dominated the battlefield. Units larger than squads experienced difficulties in communicating with adjacent elements. Enemy forces delivering fire were difficult to locate, often causing friendly small arms fire to be withheld. The element which properly positioned and utilized its machine-guns was usually able to keep the opposition pinned down. When actions bogged down, as they frequently did, mortar and artillery fire often enabled the momentum to be regained. In other cases, the personal initiative of a soldier taking over an element

following the death of the leader or securing a machine-gun from a wounded soldier and eliminating a critical enemy position had the same effect. Therefore, at those decisive points on the battlefield when just one more element of combat power could be added to provide a combat unit the advantage, that additional element was generally machine-guns, mortars, artillery, or the personal initiative of an individual soldier.

The U. S. Army has been developing new light infantry divisions featuring an increased number of infantrymen. Its foxhole strength surpasses that of airborne and air assault divisions. To accomplish this increased rifle strength, it will go to war with austere combat support and combat service support elements intended to provide only minimal essential requirements. Each of the nine maneuver battalions of the new light division has only ten mortars. Six of these were, in fact, recently added, two 60mm mortars per company, when a deficiency in this type of support was suspected. Each battalion has fewer machine-guns than previous infantry battalions. Artillery support is provided to the division by three 105mm howitzer battalions and a recently added 155mm howitzer battery.

While the primary purpose of these divisions is to rapidly deploy to a crisis anywhere in the world as a deterrent, it must have the capability to fight successfully if required. As currently organized, this capability is questionable. As shown earlier, volume of rifle fire is suspect as a valid measure of combat effectiveness, and yet these divisions apparently were designed largely on this premise. Those combat elements which historically have proven to be decisive on the battlefield have been reduced in this organization. For example, designers of the division anticipate its

use in small, widely dispersed, independent combat actions, and yet each infantry company has only two 60mm mortars in support, one less than its counterpart in World War II.

In view of these potential problem areas, the army should closely study a light infantry division, possibly at the National Training Center, with modern instrumentation means. Recent additions to the organization of company level mortars and the 155mm howitzer battery indicate a willingness to make adjustments as bonafide shortfalls are identified. There is a need for such divisions, but refinements are still needed. The Army should never plan to deploy a force as a deterrent if it is not fully capable of fighting successfully if deterrence fails.

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