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Tactical Evolution was a pragmatic process creating new methods in response to technological innovations which made previous doctrine too costly in lives to be effective. Assault tactics evolved in three phases. The first phase, which began during the Revolution reached successful maturity in the Mexican War and ended amidst the improved technology of the Civil War, was the use of the eighteenth century linear formation. The second, which evolved out of the Civil War and ended in World War I, was a (over)		

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In the evolution of infantry tactics one may also discern the story of an army which finds its identity, develops professionalism, and, finally, finds the method of operation best suited to its character. Tactical evolution closely parallels that story. From a beginning which employs a foreign system, the army evolves its own system derived from its own experience, taught by its own professional soldiers, and retained as doctrine by its own agencies. The process is a slow one, but that process is a microcosm of the development of the U.S. Army from a collection of untrained militia to a professional fighting force.

**Towards Organized Disorder: The Evolution of American
Infantry Assault Tactics, 1778-1919**

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**Final Report
17 June 1980**

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**A thesis submitted to Duke University, Durham, N.C. in
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INTRODUCTION

A modern battlefield, with its proliferation of machine weapons, can be a largely impersonal place. Men who operate many of the machines of war never get close enough to their opponents to observe the destruction their weapons have caused. War has become, for these men, a faceless, automated, technical affair. There is, however, a class of soldier for whom war remains an intensely personal, dirty, bloody business. That soldier is the infantryman armed with a rifle, the man on the ground whose job is to close with and kill or capture enemy soldiers. The infantryman fights war on its most basic level. He lives in a filthy uncomfortable world with the constant presence of death. For him, each day becomes a struggle for survival. He sees the most unpleasant side of war: the pain in faces of his wounded friends, the bloated grotesqueness of death, and the destruction caused by his weapons. He feels the deep emotions that only such traumatic experiences cause. His job is the most dangerous and the least glamorous of all the tasks of soldiering. Yet it is largely his success or failure which, in the end, wins or loses wars, and it is in support of him that all other soldiers function. He is, at once, the least enviable and most important member of the armed forces. What he does and how he does it have always proved crucial to the study of war.

Of all the tasks an infantryman performs, the one in which he has the greatest chance of being wounded or killed is in the attack or the assault of an enemy position. Because of the highly dangerous nature of this action, infantrymen and their leaders carefully study the methods or tactics for

conducting the assault. The object is always to accomplish this task successfully while sustaining the fewest casualties. In 1978 United States Army doctrine called for a tactical system of fire and maneuver to conduct this assault. This is a method by which the enemy force is pinned down by fire of one group of infantry, often working in conjunction with artillery and armor, while another group advances. The advance is made from the flank or rear of the enemy position when possible, but may, at last resort, be attempted frontally. The maneuvering group uses three to five second rushes, moving from one covered position to another. If the enemy is not suppressed and his fire is causing casualties to the maneuvering element, those soldiers return fire and may continue their advance by crawling to reach the objective. They then attempt to kill or capture the remaining opponents who man the position under attack.¹ Why these tactics are used and what training methods may be most successfully utilized to teach them to soldiers are questions that are continually asked by the modern infantryman. Because the results, the success or failure of such methods, will be counted in human lives, these fundamental questions must be thoroughly thought out and no less carefully answered.

Tactics are, in most instances, created in an evolutionary, pragmatic, process usually in response to some technological innovation which has made the previous system too costly in lives to be effective. To understand the present United States infantry assault doctrine, then, one must study the

¹For a detailed discussion see U. S., Department of Army, FM7-10 The Rifle Company, Platoons, and Squads (Washington, D.C.: Department of the Army, 1970), pp. 3-11-3-12; U.S., Department of Army, FM7-7 The Mechanized Platoon and Squad (Washington, D.C.: Department of the Army, 1977), pp. 3-23-3-24; U.S., Department of the Army, FM7-11B1 Soldier's Manual 11B10 (Ft. Benning, Ga.: The Infantry School, 1978), pp. 2-11-A-2 thru 2-11-A-2.4.

history of infantry assault tactics which led to its formation. And because these tactics are developed by particular men at a given time and place, it is essential to understand these men, their leadership, their state of training, and their ability to execute successfully the tactics they have devised.

American infantry assault tactics have evolved in three phases. The first phase, which reached a successful maturity during the Mexican War and died amidst the improved technology of the Civil War, was the use of the eighteenth-century linear formation which will be sketched in Chapter I. The second, the assault by a firing line of skirmishers with supports and reserves, which would evolve out of the Civil War and last until its bloody demise in World War I, will be developed in Chapters II, and III, and IV. In World War I American infantry adopted fire and maneuver. Chapter V will develop the acceptance of this concept in the crucible of that conflict.

In the evolution of infantry tactics one may also discern the story of a fledgling army which finds its identity, develops professionalism, and, finally, finds the method of operation best suited to its character. The evolution of assault tactics closely parallels that story. From a beginning which employs a foreign system, taught to novice soldiers by a foreign instructor, the army slowly evolves its own system derived from its own experience, taught by its own professional soldiers, and retained as a doctrine by its own agencies. The process is a slow one, lasting almost a century and a half, but that process is a microcosm of the development of the United States Army from a collection of untrained militia to a professional fighting force.

CHAPTER I

UNBROKEN LINES, 1778-1847

The Mexican War in a strict sense remains the most successful military enterprise in our history. During that conflict American forces did not lose a battle while consistently defeating Mexican armies whose numbers were greatly in excess of their own.¹ Today, looking back at this small war through a century and a half of American triumph, this fact may not seem surprising or, perhaps, even unexpected. It is neither. The Mexican War marked the first time in its history that the United States Army consistently defeated the organized forces of an opposing power on the field of battle. It was the first time that American infantry could be counted upon to stand on such a field and fight without fleeing in disarray. Before this, Colonial and, later, United States forces had compiled a sad record in offensive combat. Seldom were such forces able to assault an enemy. Far more often they broke and ran leaving the opposing force, be it British, Canadian, or Indian, in possession of the battlefield and the victory. How, then, did an army whose history was as spotty as was that of the United States Army attain such quick success in 1846? The answer lies in three areas: the nature of war in the first half of the nineteenth century, the history of the United States Army, and the quality of the Mexican Army.

¹Exemplary are the facts: Zachary Taylor with 2,288 men won the battles of Palo Alto and Resaca de la Palma against a Mexican force of 6,000. Winfield Scott with 8,500 men won Cerro Gordo opposed by 12,000 Mexicans, and he won the battles near Mexico City (Contreras, Churubusco, El Molino Del Ray and Chapultepec) with 10,700 men facing 25,000 Mexicans (see Vincent J. Esposito, ch.ed., The West Point Atlas of American Wars, 2 vols. [New York: Frederick A. Praeger, 1959], 1: 16-17).

Both the armies that fought the Mexican War employed the classic linear infantry formation which had formed the heart of European battle since the latter half of the fifteenth century.² This line was, by the American Revolution, formed by three ranks of men standing shoulder to shoulder with a one pace interval between ranks, and armed with smoothbore muskets and socket bayonets.³ These muskets were effective to a range of about fifty yards. The object of most battles was to break this line of infantry with another line of infantry also standing shoulder to shoulder in three ranks fifty to 100 yards away. The infantry tactics called for each line to blaze away at the other, in volleys.⁴ The volleys were fired by simply pointing the muskets at the enemy line with no thought of taking careful aim. The front rank, having fired, would fall back through the rear two to reload. The second rank would do the same and so on. When a break or some disorganization in the opposing force had been achieved by this fire, the infantry would charge them with the bayonet. Breaking the enemy's line was the key to victory. Infantry organization was, consequently, "founded on a need to form the line, control it in battle, renew it when decimated, and maneuver it to place the enemy at a disadvantage."⁵

For the men who fought in the battle lines, war was a particularly hideous affair. Simply to stand and fight at such ranges amid such carnage required discipline, effective leadership, and a good deal of training. It

²Lynn Montross, War Through the Ages (New York: Harper and Row, 1960), pp. 320-21.

³Socket bayonets, as opposed to plug bayonets which were stuffed into the muzzle of the musket, were fitted around the muzzle and could remain in place while the weapon was fired (see Montross, War Through the Ages, p. 320).

⁴John K. Mahon and Romana Danysh, Infantry, Part I, Army Lineage Series (Washington, D.C.: Office of the Chief of Military History, 1972), pp. 8, 9.

⁵*Ibid.*, p. 7.

is very unnatural for an average rational human being to place himself willingly in a situation that may result in his being maimed or killed. And, once he is there, to remain in that position, while his friends fall around him, or to advance in the direction from which has come their violent death, stepping over their fallen bodies, is even more unnatural.⁶ Many soldiers approaching their first battle did not realize that they would soon be amidst such carnage. If they were not disciplined, if they were not led by competent officers and noncommissioned officers, and if they had not been trained in the intricacies of linear warfare with muzzle loaders, it was easy for these bewildered men to turn and run away.⁷ In order to merely stand and fight a battle fought on such terms, then, it was necessary to provide these infantrymen with three ingredients: discipline, leadership, and training. How this was done by the Continental and United States Armies explains a great deal of the success or lack of it enjoyed by American arms.

Battle during the American Revolution, while attempting to imitate the model developed in Europe, often bore a character of its own. The forests, swamps, and mountains of the colonies forced the employment of irregular formations. Such irregular formations had been in use since the origin of firearms, but chiefly by poorly trained auxiliaries.⁸ Over a century of campaigning in North America had, however, convinced the British of the advisability of employing well-trained light infantry. During the American

⁶For a discussion of these facts in Sixteenth Century Europe see Bernard and Fawn M. Brodie, From Crossbow to H-Bomb (Bloomington: University of Indiana Press, 1973), pp. 81-82.

⁷It took, for example, fifteen separate actions simply to load and fire one round from a musket (see Joseph R. Rilling, Baron Von Steuben and His Regulations [Philadelphia: Ray Rilling Arms Books, 1966], pp. 16-20, 26-27).

⁸Theodore Ropp, War in The Modern World (New York: The MacMillan Co., 1977), p. 99.

Revolution they included many such units in the forces fighting in America.⁹ The revolting colonists also employed large numbers of irregular infantrymen often more from necessity than choice. Ideally, light infantrymen were employed as skirmishers in conjunction with traditional linear formations. These light troops often formed the advance, flank, and rear guards during movement.¹⁰ In battle they moved out in front of the close-order line.¹¹ While the men in the battle line stood shoulder to shoulder, the light infantry habitually deployed with irregular intervals between men. Instead of standing rigidly in the open, they used the available cover to protect themselves. As opposed to the volley fire of the battle line, these men aimed at specific targets.¹² Their mission was to skirmish, or to inflict casualties on the opposing line and then to fall back through the friendly line when the enemy approached. Often, especially in the Continental Army, these troops were equipped with rifles, or weapons with grooves cut in the bore to impart a spin and produce a more stable projectile flight.¹³ Rifled weapons achieved substantially greater ranges and an accuracy far superior to the smoothbore musket, but they took much longer to load and, thus, were relegated to a secondary role.

⁹Johann Ewald, Diary of the American War, trans. and ed. Joseph P. Tustin (New Haven: Yale, 1979), pp. 9, 13, 65, 322, 323. The cited pages are a fraction of the references to English light infantry found in this valuable journal. Ewald was a Jager (Hessian light infantry) officer who fought as a mercenary with the British in America, 1776-83.

¹⁰Ewald's sketches show his Jagers in such a role (see *Ibid.*, pp. 83, 85).

¹¹Maurice Matloff, gen. ed., American Military History, Army Historical Series (Washington, D.C.: Office of the Chief of Military History, 1969), p. 99.

¹²Mahon, Infantry, p. 7.

¹³*Ibid.*, p. 9.

If many battles of the Revolution were fought with unique tactics and in special circumstances, such fighting did not alter the thinking of General George Washington, the American commander, who believed that to fight war properly one had to have an army which could stand up to the British in a battle on the European model. Early in the war the men who fought in the formations of the Revolutionary army were, at best, poorly trained militia. They proved that, untrained as they were, they could not stand up to British Regulars on the field of battle. By the winter of 1777-78 the remnants of the Continental Army were encamped at Valley Forge. The important American victories had, up to this point, often been won by light infantry employing techniques of irregular warfare rather than conventional linear tactics. General Charles Lee, a former British officer then second in command of the Continental Army, advocated abandoning the attempt to fight a classic battle. In a letter to the Continental Congress in the winter of 1778, he "stressed the value of simplicity and the need for . . . warfare fit to the American genius."¹⁴ It was "madness to fight British Regulars on their own terms," he wrote, advocating the dissolution of the Continental Army and the employment of American forces as guerrillas.¹⁵ Although the idea of a guerrilla army had some support, Washington would not hear of it.¹⁶ He strongly believed in the necessity of keeping an orthodox force in the field. He was

¹⁴Russell F. Weigley, The American Way of War (New York: MacMillan and Company, 1973), pp. 12-13; Douglas W. Marshall and Howard W. Peckham, Campaigns of the American Revolution (Ann Arbor: University of Michigan Press, 1976), p. 62.

¹⁵John Shy, A People Numerous and Armed (New York: Oxford University Press, 1976), p. 154; Marshall and Peckham, Campaigns of the American Revolution, pp. 62-66.

¹⁶John C. Fitzpatrick, ed., The Writings of George Washington, 39 vols. (Washington: Government Printing Office (GPO), 1931-44), VIII: 272-73, X: 188 quoted in Weigley, Way of War, pp. 13-14.

the leader of a revolutionary army, but he wanted an army capable of fighting a conventional battle.¹⁷

To field an army capable of fighting linear warfare, however, training was essential. On 28 February, 1778, an unemployed Prussian soldier, Baron Friedrich Wilhelm von Steuben, appeared at Valley Forge seeking employment. Washington made him the head of a department of inspection, later Inspector General, to train the Army.¹⁸ He taught the Continental Army a somewhat simplified version of the drill and formations of European armies and the use of the bayonet, a weapon with which the British had enjoyed superiority.¹⁹ An understanding of the use of the bayonet was essential in linear warfare. With the armies habitually fighting at such close ranges and with the slow rate of fire of their weapons, the possibility of crossing bayonets was great. Whether this actually occurred or not a man had to have confidence in his ability to use this weapon just to stand and face an opposing force advancing with bayonets fixed. Before von Steuben the Continental Army had the decided tendency to fire a volley or two at the advancing British or Hessians and then take to their heels.²⁰ Baron von Steuben did his best to turn that gathering of militia into a trained and disciplined army. Washington was pleased with the Prussian, for in him he had found the drillmaster so essential to the viability of his army. In little more than a month after von Steuben's arrival, April, 1778, Washington wrote Congress:

I should do injustice if I were to be longer silent with regard to the merits of Baron de [sic] Steuben. His knowledge of his profession added

¹⁷Ibid., pp. 12-13; Marshall and Peckham, p. 62.

¹⁸Rilling, Steuben, p. 7.

¹⁹Matloff, American Military History, p. 80.

²⁰Weigley, Way of War, p. 10.

to the zeal which he has discovered since he began upon the functions of his office leads me to consider him as an acquisition to the service and to recommend him to the attention of the Congress.²¹

Von Steuben wrote the first manual of regulations for the Continental Army. It was adopted by the Continental Congress, 29 March 1779.²² This work, which served as a model for drilling soldiers and for the conduct of leaders, had a great effect. It continued to be used as the basis for drill and training down through the War of 1812. Many of its principles, such as the responsibility of a Captain (Company Commander) "to gain the love of his men by treating them with every possible kindness and humanity,"²³ have remained basic tenets of the American military tradition to the present day. Steuben could not, however, completely train the army in a few months. Russell F. Weigley, a leading authority on the history of the U.S. Army, has observed that even after the arrival of von Steuben, Washington tended to avoid confrontation with the British because he believed that the Continentals fell short of European proficiency.²⁴ Weigley's reasoning was based on the simple fact that there were never enough officers and NCO's in the Continental Army who knew the minor tactics well enough to bring their soldiers up to the level of proficiency of the British.²⁵ Certainly there is validity in this concept. One should realize, however, that it was only after von

²¹Letter, George Washington to Continental Congress, 30 April 1778, quoted in Rilling, Steuben, p. 7.

²²Hindman, "The New Infantry Tactics," Army and Navy Chronicle, 15 October 1835, pp. 332-333.

²³Rilling, Steuben, p. 138; James R. Jacobs, The Beginning of the U.S. Army, 1783-1912 (Princeton, N.J.: Princeton University Press, 1947), p. 9.

²⁴Russell F. Weigley, History of the United States Army (New York: The Macmillan Company, 1967), pp. 62, 64.

²⁵Weigley, Way of War, pp. 4-5.

Steuben and Valley Forge that the Continentals stood up to British Regulars in the open field.²⁶ In short, although the United States Army's history had only begun, the cornerstone of American infantry theory had been laid. It was a European model and the knowledge was only rudimentary, but von Steuben had given the Americans the first appreciation of the importance of discipline, effective leadership, and training.

Baron von Steuben would also, with an outsider's objectivity, touch on a part of the American character that would make maintenance of his brand of discipline and continuation of this training extremely difficult.

"The genius of this nation," wrote von Steuben to a friend (Baron von Gaudy), "is not in the least to be compared with that of the Prussians, Austrians, or French [soldiers with whom the Baron had worked]. You say to your soldiers, 'Do this,' and he doeth [sic] it; but I am obliged to say, 'This is the reason why you ought to do that,' and he does it."²⁷

The Baron was the first of many observers to note certain abiding characteristics of American soldiers which would appear in all wars. This soldier was inclined to be very individualistic, resenting the discipline and unavoidable restrictions of military life. Before he would put his heart into doing things, he sought to know the reason for doing them. If he finally accepted the discipline and the regulations as essential he did so only with the idea of winning victory in the shortest possible time so that he could return to his civilian endeavors.²⁸ These qualities were characteristic not only of soldiers, but American civilians as well. The results produced would seriously affect American military capability for almost the entire course of history. One immediate manifestation of these skeptical qualities was

²⁶Matloff, American Military History, p. 80; The Jager, Captain Ewald, noted the American boldness and resolution at Monmouth, 28 June 1778 (see Ewald, p. 136).

²⁷R. Ernest Dupuy, The Compact History of the United States Army (New York: Hawthorn Books Inc., 1961), p. 33.

²⁸Matloff, American Military History, p. 40.

the elimination of most of the army with the end of hostilities in 1784.²⁹ By the time of the next crisis the United States Army and its infantry would have to relearn many lessons.

The next crisis came in the 1790's on the northwest frontier. There an Indian confederation rose against encroaching settlers and first, in 1790 and again in 1791 defeated two virtually untrained and poorly led forces which the Americans had sent against them. The second army, consisting of two regiments of "regulars" (about seven hundred men), volunteers, and militia (about fifteen hundred men) led by the sickly Governor St. Clair of the Northwest Territory, who had been commissioned a Major General for the purpose, was a hastily recruited crew of unemployed men mostly untrained and notoriously inefficient.³⁰ As Harry Wildes, Anthony Wayne's biographer, notes:

Good men would not volunteer and St. Clair had to accept 'scourgings and sweepings of the slums.' Sickly and broken, racked by dissipation and debauchery, disorderly and wholly undisciplined, the little army was wholly unfit for active service.³¹

Even the "regulars" were regulars only in their terms of enlistment. It might have been possible to make soldiers of even those unfortunates by providing time, competent leadership, decent equipment, and adequate training.

²⁹On 2 June 1784, Congress reduced the army to eighty men with a "proportionable number of officers" to guard military stores at Ft. Pitt and West Point. For a discussion see: Dupuy, History of the United States Army, pp. 38-39; Weigley, History of Army, pp. 75-83.

³⁰Dupuy, pp. 50-51. The first expedition led by LTC Josiah Harmar was composed of 320 regulars and 1,100 to 1,200 militiamen. Most of the militia proved to be old men, boys, and untrustworthy riff raff. Actually the very people of agrarian society could spare to pursue a war. Harmar's force was routed in 1790 with the loss of 200 to 314 casualties mostly from the regulars who stood and fought. (On Harmar see William A. Gano, The History of the U.S. Army [New York: D. Appleton and Co., 1924], pp. 96-98; Richard C. Knopf, ed., Anthony Wayne, A Name in Arms: The Wayne-Knox-Pickering-McHenry Correspondence [Pittsburgh: University of Pittsburgh Press, 1960], p. 7; Weigley, History of Army, pp. 82-83, 90-91).

³¹Harry E. Wildes, Anthony Wayne, Trouble Shooter of the American Revolution (New York: Harcourt, Brace and Co., 1941), p. 343.

The force had, however, been hurriedly raised in 1791 to punish the Indians who had defeated the first force sent against them. As Marvin Kriedberg and Merton Henry, in their study of U.S. Army mobilization, add:

The short enlistment period of the volunteer levies, the insistence on quick action, and the slowness of recruiting left no time for training. Equipment, even including rations . . ., either was wanting or was of poor worn out substance. And the leadership was as shoddy as the equipment.³²

It seems almost anticlimactic to note that this force was routed by the Indians on 4 November 1791 with the loss of some nine hundred men.³³

Congress immediately set about recruiting a new and larger army. In doing this, the legislators made the same mistakes that had plagued the Harmar and St. Clair armies. But in the man they chose to command this new "legion", as it was called, they unwittingly found a solution to their difficulties. General Anthony Wayne had learned his profession in the Revolution, and, as he took over the army assembling at Pittsburg, he was to bring with him, as von Steuben's legacy, a knowledge of his craft. As Wayne was to find out, a soldier does not necessarily like the drudgery that teaches him the knowledge and discipline which facilitates his survival. Wayne's biographer has colorfully described the problem the General faced:

Much needed to be done before Wayne could take the field. His troops . . . were soft in muscle and demoralized. Filled with the mistaken theory that freedom and equality gave each man the license to ignore such orders as he disapproved, the men resented Wayne's demand that they do daily drills. They scoffed at his [training]. They thought his field days silly, protesting vehemently when they were herded out of

³²Marvin A. Kriedberg and Merton A. Henry, History of Military Mobilization in the U.S. Army 1775-1945 (Washington: Dept. of the Army, 1955), p. 28.

³³For detailed discussions of Harmar's and St. Clair's defeats see Jacobs, pp. 56-65, 102-115; Dupuy, History of the United States Army, p. 51.

waterfront taverns and bawdy houses to go skulking through the woods on practice raids against the Indians. . . Even his officers complained of Wayne's severity. Brought up in the lackadasical tradition of Harmar and St. Clair, many majors, captains, and lieutenants were pleasure-seeking, if not drunken, leaders who looked on soldiering as an easy way of drawing government pay.³⁴

Undeterred, Wayne set up a training program and insured that it was carried out. He was aware of the lack of knowledge and motivation of many of his officers. On 13 September 1792 shortly after he assumed command, Wayne reported to Henry Knox, the Secretary of War:

Baron Steuben's Blue Book [the name given Steuben's manual] and the Rules and Articles of War are much wanted and that in proportion to the aggregate number of officers--for they are all new to manoeuvre--and discipline and some of the old officers are rather rusty tho' [sic] conceited and refractory--however, they will be made sensible of their error or shall quit the service. They have either been too much indulged or have forgot the service in the late war.³⁵

Many of these officers, unwilling to undertake the responsibility and added work which forming and drilling an effective infantry fighting unit demands of its junior officers, did leave the service. Wayne replaced them with more conscientious and industrious souls. Then, with this effective leadership and the men that his training program had made soldiers, he took the field and decisively defeated the Indians at Fallen Timbers in 1794.³⁶

Wayne had demonstrated that discipline, effective leadership, and thorough training were the essential ingredients to victory on the battlefield of the day. Yet his lesson, perhaps not surprisingly in the view of the non-military tradition of the new nation, was quickly forgotten. Almost all the soldiers were discharged; with them went the benefits of Wayne's training. The personal continuity of non-commissioned officers and junior

³⁴Wildes, Anthony Wayne, pp. 374-76.

³⁵Letter, Wayne to Knox, 13 September 1792, quoted in Knopf, Anthony Wayne, p. 94.

³⁶For a discussion of Fallen Timbers see Jacobs, pp. 172-76.

officers, essential for an effective regular army, disappeared. This forgetfulness would cost the country and its army dearly, for the next force the Army would face was far tougher than the Indians.

The level of training received by the Army in those years was abysmally low. In addition to suffering from a shortage of trained personnel, the Army did not even have enough drill books to guide the inexperienced officers. Von Steuben's "Blue Book" remained the official drill manual, Congress having again sanctioned it on 18 May 1792, but, by the second decade of the nineteenth century, the book had been out of print for years and copies were scarce. Officers of both the militia and the regular army, when they infrequently conducted drill, instructed their units from whatever texts they could find: some using the French tactics of 1791, others the official British system written by General Sir David Dundas in 1792, many with no texts at all.³⁷ In 1808 William Duane, an enterprising civilian, was encouraged to submit his translation of the French tactics to the War Department. The author of a book approved for use by the army would receive a commission on each volume sold, thus, the profit motive for aspiring tacticians was strong. Unfortunately for Duane, official publication of his work was suspended. He included the tactics in the two-volume The American Military Library, which he published privately in Philadelphia in 1807-09.³⁸

To meet the demand caused by the War of 1812, Brigadier General Alexander Smythe, an officer from the War Department staff, published an

³⁷Hindman, "The Infantry Tactics," Army and Navy Chronicle (ANC), 15 October 1835, p. 332.

³⁸Letters, LTC. William Duane to John C. Calhoun, Sec. of War, 23 March 1824, American State Papers, Military Affairs (ASPMA), 7 vols. (Washington: Gales and Seaton, 1832-61), III: 87-91; Weigley, History of Army, p. 148; Ganoe, p. 143.

abridgment of the French Tactics of 1791, which gained official sanction.

The book was a direct copy of an English translation by a man named MacDonald. It was, a contemporary account stated, marked with "blemishes" which were the results of the poor translation and the author's lack of field experience.³⁹ Nevertheless, the book was useful for many of the officers who had no other source of instruction. On 3 March 1813 the House of Representatives passed a resolution which requested

that the President . . . cause to be prepared and laid before Congress . . . a military system of discipline for the infantry of the army and militia of the U. States.⁴⁰

Possibly in response to this request, in an attempt to profit from his earlier work, William Duane published his Handbook for Infantry. The book, composed of the same material that he had submitted earlier, again seems to have failed to get government approval, but a thousand copies were printed.⁴¹ The effect of Congress' resolution, however, was to throw the already shaky state of tactical instruction in the Army into greater confusion. Smythe's book was considered abrogated, and for the remainder of the war each officer was left to instruct his men as best he could.⁴²

On the eve of the War of 1812, the United States Army had a strength

³⁹ANC, 15 October 1835, p. 332.

⁴⁰Ibid.

⁴¹In 1824 Duane petitioned the government for payment. An investigation by Calhoun failed to turn up evidence that Duane's work on infantry tactics was ever sanctioned. He was not paid for it, although he was paid for a book on Cavalry tactics which he had published at the same time (see ASPMA, III: 87-91); Ganoe claims the Secretary of War approved Duane's tactics in 1812. He may have confused that work with Smythe's book (see Ganoe, p. 143).

⁴²ANC, 15 October 1835, p. 332.

of fewer than seven thousand officers and men. Yet Congress saw military weakness as no obstacle to declaring war on Britain. The field forces that would fight this war, again in the classic linear battle lines with predominantly musket weapons, were almost entirely militia or state units lacking standardized weapons and a common doctrine. The militia of the years 1783-1812 were neither disciplined nor trained to fight a conventional European battle. When they were able to fight in less rigorous fashion either from behind fortifications as at New Orleans or as irregulars, militia-men could on occasion give a good account of themselves. Yet, a generation after the Revolution it still required highly trained troops to employ the complicated linear tactics of the day with any hope of success.⁴³ These poorly trained militia units led by inexperienced officers had not achieved that standard and suffered defeat time after time at the hands of British Regulars. The only American victories of the war against these Regulars in the open field were in two battles on the Canadian frontier.

The Americans who fought and won the two battles, Chippewa and Lundy's Lane, differed substantially from their countrymen who lost the rest. They were fortunate to be trained and led by Winfield Scott, the best American military mind to emerge from the war. Scott had practiced law in Virginia, been a militia officer, and had joined the Army during the excitement following the Chesapeake-Leopard affair in 1807. Following conviction by a court martial which resulted in his suspension from service for a year in 1810, Scott returned to duty and served with distinction during the first two years of the war. By 1814 he was a Brigadier General. In March of that year, Scott arrived in Buffalo, New York, to command his small force of Regulars, some three thousand men, and in his own words:

⁴³Matloff, American Military History, p. 109:

Scott sets up a camp of instruction. As the government had provided no text book [on tactics] Brigadier General Scott adopted for the Army of the Niagara, the French system [basically the same linear formation already discussed], of which he had a copy of the original. He began by forming the officers of all grades, indiscriminately into squads, and personally instructing them in the schools of the soldier and the company [just as von Steuben had done at Valley Forge]. They then were allowed to instruct squads and companies of their own men--a whole field of them under the eyes of the general at once, who, in passing, took successively many companies in hand, each for a time. So, too, on the formation of battalions he instructed each for an hour or two a day for many days and afterwards carefully superintended their instruction by the respective field officers. . . . The evolutions of the line, or the harmonious movements of many battalions in one or more lines with a reserve--on the same principle that many companies are maneuvered together in the same battalion, and with the same exactness were next daily exhibited for the first time by an American Army, and to the great delight of the troops themselves, who now began to perceive why they had been made to fag [work] so long at the drill of the soldier, the company, and the battalion. Confidence, the dawn of victory, inspired the whole line.⁴⁴

If the explanation sounds complicated, putting the actual movement into practice on the drill field was even more so. To move three thousand men through even basic large-scale maneuver, which was essential to bring enough muskets to bear to cause a hole in the enemy formation, and to do so effectively required a great many hours of work. It was arrangement or choreography of a deadly ballet which had to be perfected on the practice field to become effective in the horrifying arena of actual performance. It took hours in the sun or the cold, a hard task for the instructors who continually barked commands, a mind-chilling one for the soldier who automatically obeyed.

Yet there is truth in Scott's assertion of a rise in confidence. As

⁴⁴Winfield Scott, Memoirs of Lieut. Gen. Scott LLD Written by Himself, 3 vols. (New York: Sheldon, 1864), 1: 119-21. General Scott learned the art of war by self study aided by the suspension from active duty in 1810. He spent a good deal of that period in the extensive military library of his Virginia neighbor, Benjamin Watkins Leigh. See Weigley, History of Army, pp. 126-27; Allen Jackson and Dumas Malone, eds., Dictionary of American Biography (DAB), 20 vols. (New York: Scribner's, 1930-36): 16: 505-11.

the men grasped the drill, they also grasped the ideas of their own proficiency and, with it, the ideas of their ability to win a battle. Almost all of Scott's training program took place on the drill field, but it was there that the complications of the linear tactics had to be mastered, it was there that the iron discipline had to be instilled, and it was there that confidence in leadership had to emerge if the force hoped to face an opponent versed in linear warfare with a chance of success. Four months after he began, Scott's brigade marched out of camp to face such an opponent.

At Chippewa, Scott's regulars advanced against an equal number of British Regulars. To the surprise of the British Commander, who was accustomed to encountering untrained militia, the American soldiers kept coming through his fire. Finally, it was the British who broke and ran, prompting the historian Henry Adams to write, "The Battle of Chippewa was the only occasion during this war when equal bodies of regular troops met face to face in extended lines on an open plain in broad daylight without the advantage of position; and never again after that combat were an Army of American regulars beaten by British troops."⁴⁵ As persuasive and far reaching as these observations sound, the fact is that British and American Regulars were to oppose each other only twice more in history. One of those occasions was fifteen days later when the same forces met at Lundy's Lane.⁴⁶ There Scott's brigade bore the brunt of the fighting as they stood against the point-blank British fire and repeated British assaults. When the battle ended late in the night,

⁴⁵Dupuy, History of the U. S. Army, p. 67.

⁴⁶At Lundy's Lane, Scott's brigade formed the bulk of Maj. General Jacob Brown's little American army of about 2,000 men. British forces under Lt. General Sir Gordon Drummond numbered 3,000 men. On 17 September 1814 the British and American Regulars met for the last time when General Brown's forces sortied from Fort Erie which was besieged by General Drummond. The Americans stormed out and were successful in a three-pronged assault. (See Esposito, Atlas, p. 1: 11; Dupuy, History of the U.S. Army, pp. 67-68.)

Scott's brigade still held firm.⁴⁷ Those long hours on the drill field had produced results. The keys which had produced that success were not entirely ignored by the American government.

When Congress met in the autumn of 1814 one of the earliest measures passed was a resolution calling for the executive to institute a board of general and field officers to prepare a uniform system of infantry tactics for the Army.⁴⁸ The board, composed of Major General Scott as president, Brigadier General Joseph G. Swift, and Colonels John R. Fenwick, William Cumming, and William Drayton, met in January 1815.⁴⁹ These officers were directed to modify MacDonald's translation of the French tactics to make it correspond to the organization of the American Army. The officers were rushing to finish their work, in preparation for the campaign of 1815, when the treaty of peace was received in Washington. This event, followed by a bill for disbandment of the Army and the imminent dissolution of Congress, left

⁴⁷ANC, 15 October 1835, p. 332; Dupuy, History of U.S. Army, p. 67.

⁴⁸ASPMA, I: 523.

⁴⁹ANC, 15 Oct. 1835, p. 332; Ganoe, p. 143. Of the board members Scott probably had the most influence on the tactics. Swift, the first graduate of West Point, was an engineer, but had been Superintendent of the Military Academy since 1812 and, presumably, knew the drill well. Fenwick had been a Marine officer, Nov. 1799-Apr. 1811 when he resigned as a Captain. In Dec. 1811 he accepted a commission as a Lieutenant Colonel of Light Artillery. In 1813 he was breveted to Colonel for gallantry on the Niagara Frontier. Both he and Cumming, who was appointed as Major, 8th Infantry in 1813 and became a Colonel in February 1814, may have been appointed to the board because they were available at headquarters in Washington. Cumming resigned 15 March 1845. Fenwick remained in the Army until he died in 1842 rising to the rank of Brigadier General. Drayton was a lawyer from Charleston who had been in the South Carolina Militia since 1801. In 1812 he was appointed Lieutenant Colonel and, later, Colonel of the 18th Infantry. He resigned after the war, later becoming president of the Bank of the United States, 1839-40. J. T. White, ed., National Cyclopedia of American Biography (NCAB) (N. Y.: J. F. White, 1933), 10: 12, 11: 283; George Cullum, Biographical Register of Officers and Graduates, USMA (New York: Houghton Mifflin, 1891-1920), 1: 52-53; Francis B. Heitman, Historical Register and Dictionary of U.S. Army, 1789-1903 (Washington: GPO, 1903) 1: 417.

the board with no time to review its hasty product. As a result, the MacDonald translation of French tactics with few corrections was published by the War Department as the official drill manual for the Army.⁵⁰ Thus, the first instance of establishing tactical doctrine by a board of officers had done little more than adopt the translation of a foreign system, but, in calling that board together, Congress had established a precedent that would continue to be the vehicle of tactical reform to the present day. In recognizing the need for a uniform system of tactics, Congress had also underscored the fact that the war, with its many defeats of poorly trained Americans, had taught the need for training.

If the War of 1812 demonstrated, once again, the necessity of training for successful infantry, it also pointed to the essentiality of competent leadership to command that infantry. Professor Weigley notes:

The crucial issue was again one of leadership, of finding officers who could train men and handle them properly. When regulars were led by 'old officers' who, as Winfield Scott described them, 'had generally sunk into either sloth or intemperance' and who neither drilled their troops nor led them with skill or bravery on the battlefield, American Regulars were no match for British Regulars. When led by men who disciplined and inspired them and used them with regard to their limitations, meeting with the British might lead to victory.⁵¹

To provide these officers, the United States Military Academy had been founded in 1802. By the outbreak of the War of 1812, as General Scott comments:

The West Point Academy had graduated but few cadets--nearly all of whom are mentioned . . . as meritorious; for a booby sent thither, say at age 16, 17, or even 19--and there are such in every new batch--is in his term of four-years, duly manipulated, and, in most cases, polished, pointed and sent to a regiment with a head on his shoulders; whereas, if a booby be made at once a commissioned officer, the odds are great that

⁵⁰The militia continued to use Steuben as a guide until 12 May 1820 when Congress directed that they too adopt the system of the regular army (see ANC, 15 October 1835, p. 332).

⁵¹Weigley, History of Army, p. 132.

he will live and die a booby.⁵²

Scott's perceptions on the value of academy training are quite accurate. Although the Academy did not teach a great many military subjects, it did teach drill. Every day cadets woke up to drill, marched to meals, marched to classes, conducted parades, etc. This very exposure left them at the end of four years both adept at conducting the drill and inculcated with the discipline. It was this experience which would make the ex-cadets knowledgeable when they arrived at their regiments. To know the drill was to know the training. Thus, the West Pointer arrived at his regiment understanding what needed to be done and capable of doing it. The few West Pointers who had participated in the war had done remarkably well, but their real significance was to be in the formation of a professional officer corps which would lead the small units of the little Regular army that emerged from the War of 1812. In thirty years of frequent Indian fighting they would train that army for its next major test as Scott had trained his men at Buffalo.

In the summer of 1817, with the appointment of Major Sylvanus Thayer as Superintendent, West Point acquired a man who would increase the value of academy training. Thayer was an engineer who had graduated from West Point in 1808 and, in the two years prior to assuming the superintendency, had toured the military schools of Europe. He weeded out incompetent cadets and faculty, established a four year curriculum, and organized the cadets into companies under tactical officers. Thayer also created the position of Commandant of Cadets, a faculty officer responsible for all cadet discipline

⁵²Scott, Memoirs, 1: 35-36.

and military training.⁵³ Many officers who would hold this post would play key roles in shaping infantry tactical doctrine. During Thayer's administration cadets received military instruction every day from 4:00 p.m. to sunset. This instruction consisted of learning everything from elementary drill to evolutions of the line and the exercises of light infantry and riflemen, as well as artillery training. Significantly, cadets learned French, the language from which the drill books were translated. In their senior year cadets studied military history, the only other military instruction they received.⁵⁴ Thayer, who would remain in his post for sixteen years, provided the army with many fine young officers as well as an enduring institution to produce more. Meanwhile Scott would insure that these officers had a tactical system they could use.

General Scott was to play a large part in the formulation of infantry tactical doctrine during the next thirty years. His work on the Board of Tactics finished, Scott went to Paris in 1815 where he observed the conquerors of Napoleon, collected books, and studied tactics.⁵⁵ In 1824 he served again as president of a board, appointed by Secretary of War John C. Calhoun, to revise the infantry tactics and to incorporate a compendious system of evolutions for light infantry and riflemen.⁵⁶ The board, which met at West Point, was composed of Scott, Fenwick, Thayer, Brigadier General Hugh

⁵³Webster's American Military Biographies (WAMB) (Springfield, Mass.: G. C. Merriam & Co., 1978), p. 434; Weigley, History of U.S. Army, pp. 145-46.

⁵⁴ASPMA, II: 650, 658.

⁵⁵Matloff, American Military History, pp. 148-49.

⁵⁶"Report of the Secretary of War," 3 Dec. 1824, quoted in ASPMA, II: 699; ANC, 15 Oct. 1835, pp. 332-33.

Brady, and Major William Worth.⁵⁷ The book they produced, The Rules and Regulations for the Field Exercise and Maneuvers of Infantry, 1825, was again based on MacDonald's translation of the French tactics. Instead of completely translating the French and applying it to the American Army, however, the board attempted only to correct MacDonald's errors from a copy of the 1815 drillbook.⁵⁸ The result was a patchwork affair which had many faults. The system for light infantry and riflemen was cumbersome and complicated, duplicating much of the drill of the line, and there were no instructions for skirmishers.⁵⁹ The system was accepted, but it was far from meeting all the requirements.

In Europe, with the return of peace following Napoleon's final defeat, armies began to digest the lessons of the war years. The basis of both the American manuals of 1815 and 1825 was the French system of 1791, which had been written by Jacques de Guibert, the great military theoretician, in 1789. The book, incorporating the column for movement with the line for fighting, remained virtually unchanged in France during the Napoleonic wars.⁶⁰ In

⁵⁷Scott and Fenwick had served on the previous board. Thayer was still Superintendent, USMA and knew a good deal about tactics. Brady had been in the army from 1792-95 and again 1799-1800, rising to Captain, 10th Infantry. He was honorably discharged. In 1812 he was appointed Colonel 22nd Infantry, transferring in May 1815 to the 2d. Infantry. He became a Brevet Brigadier General in 1815. Presumably he had learned some tactics in his years as an Infantry regimental commander. Worth had been commissioned in 1812. He was on Scott's staff at Chippewa and Niagara where he was Brevetted to Major for bravery. He had been Commandant of Cadets, USMA, since 1820 and would remain in that capacity until 1828. MCAB, 4: 506; Heitman, 1: 239; WAMB, p. 491.

⁵⁸Scott, Memoirs, 1: 207; ANC, 15 Oct. 1835, p. 333.

⁵⁹Ibid.

⁶⁰Ibid.; for a discussion of Guibert's ideas see Kopp, pp. 98-102.

1827 the French Army began to rewrite that manual, and on 4 March 1831 the new text was published. The British Army also rewrote its official system in 1833. A contemporary observer noted that the armies of Europe, and even of Egypt, teemed with new works on tactics.⁶¹ In 1834, partially as a result of the new publications in Europe and partially because the army needed a new manual, the Secretary of War suggested to the House of Representatives that the Army should revise its tactical manual. The House passed a resolution which called for such a revision, and General Scott was tasked to provide it.⁶²

Scott was an obvious choice to author the new tactical manual. He was the authority on tactics, having studied in Europe and having been president of the two previous boards. To produce a new system, he simply translated the French book modifying the translation where necessary to fit the American organization. What is not clear, however, is whether Scott actively sought this assignment or even first suggested it to the Secretary of War. The author of the drill book still stood to make money on every copy sold; thus, the job of translating the French book was quite remunerative. That profit motive, on Scott's part, may have led to the decision to modify the tactics. In any event, Scott completed his three-volume work and submitted it to a board of officers in early 1835.⁶³ However, the army was changing, and his work would not be received in silence.

⁶¹The observers pen-name is "Hindman." His history of American tactical development appearing in the Army and Navy Chronicle, is well done, the details very accurate. Unfortunately his identity remains unknown. See ANC, 15 October 1835, pp. 332-33.

⁶²Ibid.; "Infantry Tactics," ANC, 5 March 1835, p. 76.

⁶³Ibid.

The years after the War of 1812 had seen the birth of institutions which would further the professional development of the army. In 1824, the Army's first postgraduate school, the Artillery School of Practice, was established at Fort Monroe, Virginia. In 1827, the first rudimentary Infantry School of Practice was set up at Jefferson Barracks, Missouri.⁶⁴ While the school system progressed no further, the quality of military education at West Point was enhanced by the addition to the faculty of Denis Hart Mahan in 1830. Mahan had graduated from the academy in 1824, remained two years as an instructor, and then had been sent by Thayer to Europe to study military engineering.⁶⁵ When he returned he taught, not only engineering, but also the "Art of War" to the senior cadets, inaugurating an American branch of military theory. By developing an interest in the theory of war among cadets, Mahan would foster tactical thought. The cadets would in turn bring these ideas into the Army after their graduation. Also during this period, the first American military periodicals appeared, including: the Military and Naval Magazine, 1833-36; Army and Navy Chronicle, 1835-44; and Military Magazine, 1839-42.⁶⁶ Although all eventually ceased publication, their appearance signaled at least a beginning of interest by soldiers in their profession. It was in one of these publications that comment on Scott's system first appeared in print.

The Army and Navy Chronicle was a weekly newspaper-like journal. Among the many items on births, promotions, arrivals, departures, assignments, and deaths of military personnel, it also contained articles on military

⁶⁴Weigley, History of Army, p. 153.

⁶⁵Ibid., p. 150.

⁶⁶Ibid., p. 152.

matters. One such article, written by the editor, appeared on 5 March 1835. It announced Scott's tactical revision, hailed it as an improvement over the old system and suggested the author receive credit for his efforts.⁶⁷ Within two weeks, however, critics had begun to take exception to Scott's work. For the next year and a half a small group of officers, all using pseudonyms, argued the pros and cons of Scott's system.

The first man to voice opposition to Scott's revision was "Clairfait" who, in a series of articles from March to May, criticized the lack of any substantial improvements in the new regulations. He noted many officers still had not bothered to learn the system of 1825, while a larger group of infantrymen wanted to learn the drill, but could not because their troops were scattered.⁶⁸ He derided the inclusion of a three-rank formation, noting the British had demonstrated the obsolescence of this formation in the Napoleonic Wars, complained of the inadequacy of the light infantry instructions, commented on many trivial aspects of the translation, and observed that both boards which ruled on the tactics rubber stamped them without changes or modification.⁶⁹ He also noted that little training of light infantrymen was conducted at most posts, which, he thought, was unpardonable in a country so adapted to the use of their talents.⁷⁰

"Clairfait's" attacks on Scott's tactics awakened other commentary on the system. One officer argued that the change was not an improvement,

⁶⁷ANC, 5 March 1835, p. 76.

⁶⁸Clairfait, "New Infantry Tactics," ANC, 19 March 1835, pp. 94-95.

⁶⁹Ibid., p. 95; Clairfait, "The New Infantry Tactics," ANC, 26 March 1835, p. 101; 9 April 1835, pp. 119-20; 16 April 1835, p. 126; 23 April 1835, pp. 133-34; 7 May 1835, p. 150.

⁷⁰Clairfait, "The New Infantry Tactics," ANC, 23 April 1835, p. 134.

another that the system was too complicated and that the author had only translated the book to make money.⁷¹ Other officers defended the tactics and pointed out the value of the changes that were made.⁷² In October, "Hindman," the staunchest defender of the tactics, began a series of articles which traced the history of United States tactical development and presented a detailed analysis of Scott's system. He addressed all the complaints about the system and concluded that the changes, having been based on experience gained in war or at camps of instruction, were beneficial.⁷³ The editor of the chronicle noted the points made by "Hindman" and bemoaned the lack of rebuttal by "Clairfait." The editor surmised "Clairfait" had been killed or died during the Seminole war which was then raging.⁷⁴ The next month a series of articles by "Philo-Clairfait" began. This officer defended "Clairfait," stating "Hindman" had printed trash, but that the system's flaws would not escape the scrutiny of academy graduates. He was supported by another officer who was as yet undecided as to whether the new system was at all useful or totally useless.⁷⁵ With this exchange the debate on Scott's tactics died out.

⁷¹Enquirer, ANC, 20 August 1835, p. 270; Young Fogram, "The New Infantry Tactics," ANC, 23 July 1835; 30 July 1835, pp. 247-48; 27 August 1835, p. 277.

⁷²Amateur Justitiae, "The New Infantry Tactics," ANC, 17 September 1835, p. 317; Hindman, "The New Infantry Tactics," ANC, 15 October 1835.

⁷³Ibid.; Hindman "New Infantry Tactics," ANC, 22 October 1835, pp. 340-41; 29 October 1835, pp. 348-49; 7 January 1836, pp. 8-12; 14 Jan. 1836, pp. 27-29; 28 Jan. 1836, pp. 60-61; 4 Feb. 1836, pp. 76-78; 11 Feb. 1836, pp. 90-91; 10 March 1836, pp. 153-56; 31 March 1836, pp. 203-06.

⁷⁴ANC, 31 March 1836, p. 201.

⁷⁵Philo-Clairfait, "The New Infantry Tactics," ANC, 14 April 1835, pp. 234-35; 21 April 1835, pp. 251-56; T., "The New Infantry Tactics and etc." 9 June 1836, pp. 36162. While it is interesting to speculate on who these pseudonyms really were, the author has had no success in identifying any of them.

While the tactical debate was interesting to trace in itself, it evidenced a number of things about the Army of that day. The number of participants, although each was a voluminous writer, was small, showing either a lack of interest or lack of ability to participate by the majority of officers. There was a common concern by participants over the insufficient training for light infantrymen, while all of them agreed on the essentiality of those troops for fighting war in America.⁷⁶ And there was a common concern that some officers did not know and could not conduct the drill. In short, although some officers were beginning to concern themselves with improvements in the particulars of their profession, many were content with a much more rudimentary performance. Except in combat, the ability to conduct drill was not essential to an officer's career. He could avoid the issue by simply not training his men. That such an attitude was existent was a sad commentary on the state of the Army. That the attitude was recognized and maligned by other officers was a sign that progress was being made.

As the debate over Scott's tactics raged in the Chronicle, two boards met to review the manuscript and to accept the system. The second board, which met on 1 April 1835, consisted of most of the General officers on duty in Washington. Major General Alexander Macomb, the Commanding General of the Army, was President. The members were: Fenwick; Brevet Major General Thomas S. Jesup; Brevet Brigadier Generals John E. Wool, George Gibson, Roger Jones, and Nathan Towson; Colonel George Croghan; Major Trueman Cross; Brevet Major John Garland; and Brevet Captain Samuel Cooper, secretary.⁷⁷ The board

⁷⁶One officer recommended the formation of a Light Infantry Corps to develop the talents of these "most useful soldiers." See, "Light Infantry," ANC, 14 April 1836, p. 235.

⁷⁷Macomb had been associated with the Army since 1799 and had commanded troops in the War of 1812 as a general officer. He was named Commanding General in 1828. Fenwick had served on two boards with Scott. Jesup,

approved Scott's proposal without modification and the books became the official tactical system in 1835.⁷⁸ It would be the system that the American Army used during the Mexican War.

American military history, then, up to the Mexican War had illustrated that in order to overcome an opponent on an open field using the line of infantry three things were essential: the infantry must be adequately trained, that is to say drilled, in the intricacies of moving and firing as units; they must be disciplined, for only with firm discipline can men overcome their natural and rational tendencies to flee the scene of carnage; and

the Quartermaster General, had commanded the 25th Infantry of Scott's Brigade at Chippewa and Lundy's Lane. He was breveted for gallantry in both actions so he must have been able to effectively maneuver his troops, but he had held his current position since 1818. Wool, the Inspector General since 1816, had been breveted for gallantry at Plattsburg. In 1832 he had toured Europe and was probably aware of the newest tactics. Gibson, the Commissary General for Subsistence since 1816, had also commanded infantry as a captain, major, and lieutenant colonel from 1809-1815. Jones, the Adjutant General since 1825, had been a Marine and an artilleryman. Towson, the Paymaster General since 1822, had been an artilleryman. He was breveted for gallantry at Chippewa where he commanded the artillery attached to Scott's brigade. Croghan, an Inspector General since 1825, had been an infantry officer during the War of 1812, but resigned in 1817. He was directly appointed as Inspector General in 1825 by President Adams. Cross, a Quartermaster since 1826, had been an infantry officer from 1814 until his appointment to the staff. Garland, an assistant Quartermaster since 1826, was also an infantryman before that assignment. Cooper, Macomb's aide, was the only West Pointer on the board. He graduated in 1815 and was commissioned in artillery. Of the eleven men, although nine had had combat experience and eight were infantrymen most had been in staff positions for many years. Of the senior officers only Fenwick and Wool had recent tactical experience and Fenwick's was nine years old. The Majors had both been on the staff for nine years as well. The board, then, was picked by the convenient presence of the officers at headquarters and did not have personnel who were knowledgeable of current tactics. For biographical data see: DAB, 12: 256, 10: 62-3, 20: 513; WAMB, pp. 200, 268, 489; NCAB, 2: 241, 4: 282, 12: 130, 7: 379, 4: 256, 11: 54; Heitman, 1: 453, 341, 447.

⁷⁸Macomb and Cooper took advantage of their position on the board by publishing a book entitled System of Tactics and Regulations for the Militia and Volunteers in 1836. This book was a condensation of Scott's work to one volume of 280 pages. Cooper was listed as the author and Macomb, the editor. It appeared, simply, to be a way to earn some easy royalties. See, ANC, 26 May 1836.

their leaders must be competent professionals who will make their soldiers undergo the long hours on the drill field to learn their art, and who will then calmly lead them into battle. With the three ingredients, American infantry had invariably produced victory no matter the opponent, but, wanting one or more of these essentials they invariably met defeat.

American military tradition had been slow to incorporate the implications of these essentials. A people who disliked the disciplined requirements of military existence, combined with a Congress skeptical of standing armies, quick to minimize military expenditures and eager to limit personnel strengths, produced a climate in which a professional soldier was an anomaly. Slowly, the government had modified that tradition as legislators and leaders gradually came to understand the necessity of maintaining a trained corps of officers and a small standing or Regular Army. By the eve of the war with Mexico, the Military Academy at West Point had produced many of the company grade (captains and lieutenants) and some of the field grade (majors and lieutenant colonels) officers who would lead the units of the fourteen regiments of the army.⁷⁹ Although it would be another sixty years before the government would realize the need to train volunteers before they went off to war, the army that would fight in Mexico had learned the value of such training.

The force that General Zachary Taylor gathered in Texas in 1845 was not the normal mass of untrained volunteers with which the United States had so far responded to its few military crises. It was, rather, most of the Regular Army: five of the eight regiments of infantry; one of the two regiments of dragoons (literally mounted infantry who rode to battle but fought

⁷⁹The Infantry School, Selected Readings in Military History (Ft. Benning, Georgia: The Infantry School, 1953), p. 154.

on foot), and four companies of each of the four regiments of artillery.⁸⁰ At Corpus Christi, Taylor's base, many of these units started intensive training programs which again consisted of incessant drills and parades.⁸¹ This initial training, concentrating regiments and brigades, highlighted one of the weaknesses of the Army. When the army was dispersed in small garrisons small unit training was encouraged. This training rapidly seasoned the junior officers fresh from West Point who had been taught the drill as cadets, but the circumstances gave the senior officers, many of whom lacked any formal military training, little experience in maneuvering large units.⁸² Lieutenant Colonel Ethan Allen Hitchcock, a West Pointer, class of 1817, who had served as Commandant of Cadets, 1829-33, stated he was one of the few senior officers who could drill his command.⁸³ Hitchcock grudgingly admitted Brigadier General William Worth, 1st Brigade Commander, had some knowledge of brigade movement.⁸⁴ This was undoubtedly true as Worth had also been Commandant of Cadets, USMA, 1820-28, and had served on the 1825 tactics revision board.⁸⁵ Colonel Garland of the 3d Brigade, and the 1836 tactics board, on the other hand, asked Hitchcock's advice on how to drill his unit and, eventually, permitted Hitchcock to conduct the drill.⁸⁶ "We ought to be the best instructed troops in the world, but we are far from it," lamented Hitchcock.⁸⁷ Three circumstances would insure that this defect in

⁸⁰Ibid.

⁸¹K. Jack Bauer, The Mexican War 1846-1848 (New York: Macmillan and Co., Inc., 1974), p. 34.

⁸²Ibid., p. 33.

⁸³Ethan Allen Hitchcock, Fifty Years in Camp and Field, ed. W. A. Croffut (New York: G. P. Putnam's Sons, 1909), p. 215; Weigley, History of Army, p. 176; Bauer, Mexican War, p. 33.

⁸⁴Hitchcock, p. 215.

⁸⁵NCAB, 4: 506.

⁸⁶Hitchcock, pp. 215-16.

⁸⁷Ibid.

the senior officers was not fatal. The first was the law restricting the number of senior officers in the army to three generals, and one colonel, one lieutenant colonel, and one major for each of the fourteen regiments, and the fact that because many of those senior officers were on detached duty or sick leave (there was no retirement), few of the regiments were led by their colonels. Regular regiments were often commanded by their lieutenant colonel, major, or even a senior captain.⁸⁸ Hitchcock, for example, was the commander of the 3rd Infantry as a lieutenant colonel. The second circumstance was that in infantry or artillery training, it is the junior officer on whom the burden for producing excellence falls. In combat it is to that junior officer that the infantryman looks for his inspiration and for the steady calm professionalism that he can follow. In these junior officers that little army was particularly strong. As Professor Weigley writes:

The great strengths of the U.S. Army were in its junior officers, especially the West Pointers, and its enlisted men. They not only made the Regular Army which opened the war a formidable force for its size; they also demonstrated again what Scott had shown when he fashioned the force that won Chippewa and Lundy's Lane, that the leadership of a relatively small number of officers and NCO's who knew their business could make soldiers out of willing citizens in a remarkably short time.⁸⁹

The third circumstance was the fact that the army had time to gather these soldiers together and improve its drill before going into combat.

The army that won the first two victories of the Mexican War consisted entirely of Regulars. On 8 May 1846, Taylor's forces, outnumbered two to one, defeated the Mexicans with artillery fire that decimated the Mexican ranks and a defensive stand by a regiment of infantry which broke a Mexican cavalry charge. The next day, the same forces clashed again. This time American

⁸⁸Bauer, Mexican War, p. 33.

⁸⁹Weigley, History of Army, p. 182.

infantry supported by artillery attacked and routed the Mexicans.⁹⁰ As Ulysses S. Grant (an infantry lieutenant and later captain during the war) would recall:

At the battles of Palo Alto and Resaca de la Palma [the ones just described], General Taylor had a small army, but it was composed exclusively of regular troops, under the best drill and discipline. Every officer, from highest to lowest was educated in his profession, not at West Point necessarily, but in the camp, in garrison, and many in Indian wars. The rank and file were probably inferior as material out of which to make an army to the volunteers that participated in all the later battles of the war; but they were brave men, and their drill and discipline brought out all there was in them. A better army man for man probably never faced an enemy than the one commanded by General Taylor in the earliest two engagements of the war.⁹¹

For the first time in United States history the opening battles of a war had been fought by trained, disciplined, well-led soldiers. To insure that success continued, Regular army recruits received training at camps of instruction before being sent to Mexico. When they arrived, further training was conducted during the weeks between actual campaigning, by the considerable number of trained junior officers who led the Regular units.⁹² This practice insured continued reliability by the Regulars.

The same leavening process was not available to the volunteer units that soon began to arrive in Mexico. These units, the first of a large levy Congress ordered to help prosecute the war, arrived at Taylor's camp without any preliminary training:

General Taylor prescribed six hours daily drilling for the volunteers once they reached Mexico. Later in the war, volunteer regiments were sent to schools of instruction in Mexico where they were drilled with Regular regiments and the officers received instruction in tactics. Drill was of course, the chief element of training.⁹³

⁹⁰Bauer, Mexican War, p. 57.

⁹¹Ulysses S. Grant, Personal Memoirs of U. S. Grant, ed. E. B. Long (Cleveland: World, 1952), p. 84.

⁹²Kriedberg and Henry, Mobilization, p. 81.

⁹³Ibid., pp. 80-81.

When Winfield Scott arrived and initiated his campaign that would end with the capture of Mexico City and bring an end to the war, he continued Taylor's methods. Actually, with what we already know of Scott, and since he was at the time Commanding General of the Army, Taylor may well have been following Scott's orders for training.

Jacob Oswandel, a volunteer of the First Pennsylvania Regiment who fought with Scott at Vera Cruz and Cerro Gordo, often mentions drill in the diary he kept as a private soldier. His regiment had only two weeks training prior to departing for Mexico on 15 January 1847, but by 12 May of that year incessant drilling had become routine. "This morning as usual, nothing but drilling," he writes.⁹⁴ That this drilling was a universal occurrence is illustrated by a schedule of calls from volunteer Colonel J. F. Hamtramck's Virginia Regiment of Volunteers dated 22 June 1847. His order 326 calls for daily Reveille at 0400, Guard Mount at 0800, Morning Drill from 0930-1230, and Afternoon Drill from 1630-1800 as well as, "daily officer and NCO drill."⁹⁵ Grant summed up the effects of this training by stating:

The volunteers who followed [the Regulars to Mexico] were of better material but without drill or discipline at the start. They were associated with so many disciplined men and professionally educated officers that when they went into engagements it was with a confidence they would not have felt otherwise.⁹⁶

The army had learned the value of training. In Mexico, as never before, each unit, Regular or volunteer, was drilled incessantly until the ability to maneuver and fire in linear formation became second nature. In that drill the inculcation of discipline would forge that very unnatural

⁹⁴Jacob J. Oswandel, Notes on the Mexican War 1846-47-48 (Philadelphia: 1885), pp. 30-42, 162.

⁹⁵Headquarters, Buena Vista, Orders Number 326, 22 June 1847, James F. Hamtramck Papers, Duke University, Durham, N. C.

⁹⁶Grant, Memoirs, p. 84.

ability, born, as Scott said, of confidence, that would enable a man to stand and fight.

Although the Regulars were rich in trained junior officers, the men who would accomplish that inculcation of the volunteers were a different breed. In the regiments of volunteers that came to Mexico, the men had, in the national tradition, elected their officers. In the past, this practice had been universally detrimental. During the Mexican War, however, there were circumstances not previously extant. In a growing young nation with a high demand for trained engineers, yet with a small army and almost non-existent promotion, many West Pointers, who had engineering degrees from one of the few engineering schools, had left the army to go into business. A number of them now returned to the volunteers, but not as junior officers. Men like Albert Sidney Johnston, Jubal Early, and Jefferson Davis (all later prominent Confederates) were among the West Pointers who were given field grade commissions in the volunteers.⁹⁷ These were young, energetic, competent officers, and the volunteers proved very sensible by electing them to the field grades. The junior officers, however, often had little or no training.⁹⁸ The point to be made is that in these volunteer organizations, knowledgeable field officers were available for the first time in history. They would provide the training for their junior officers and the steadying influence in battle that the volunteers had never had before. It was not the ideal, but it was a great improvement over previous volunteer militia formations.

⁹⁷West Point had graduated 1330 men by 1847; of those still living, 523 were in the Army and 500 more returned from civil life (see George W. Cullum, Biographical Register of the Officers and Graduates of the U.S. Military Academy (New York: Cambridge, 1891), I-II, cited by Kriedberg and Henry, Mobilization, p. 71.

⁹⁸Kriedberg and Henry, Mobilization, pp. 71-72.

That these experienced field grade officers made their presence felt on the junior officers was evidenced in the writings of Volunteer Captain Fletcher H. Archer of the Virginia Regiment of Volunteers. In an unpublished memoir he wrote:

Major Jubal A. Early, a graduate of West Point [was] superior to either of the two mentioned. [His colonel, interestingly enough, also a West Pointer, and his lieutenant colonel] in point of ability and military information.⁹⁹

Such men as Early, later a Confederate General, were essential to the development of the volunteers. They were the "professionally educated officers," whom Grant remembers, "giving the volunteers drill, discipline and confidence."¹⁰⁰ They had the time in Mexico to drill their men and train their junior officers before taking them into battle. And they produced the best volunteer record yet seen. A few individual regiments broke and ran under fire as did the 2d Indiana at Buena Vista, but the great majority behaved extremely well in battle.¹⁰¹

The United States Army, then, had forged a capable, if small, instrument of war. Using the experience of the past, that army had evolved a force that was disciplined, well trained, and well led. Further, that army, when augmented with volunteers, had insured that those new arrivals were trained before they fought. When that army did fight, it invariably faced superior numbers of Mexican soldiers yet without exception defeated those forces. To find further reason for this success, remembering the competence of the United States forces, one should explore the state of the Mexican Army. To evaluate

⁹⁹Fletcher H. Archer, "Personal Reminiscences of Service in the War with Mexico," 1848, Fletcher H. Archer Papers, Duke University, Durham, N. C.

¹⁰⁰Grant, Memoirs, p. 84.

¹⁰¹Bauer, Mexican War, pp. 213-14.

the Mexican army and its ability to fight a linear infantry battle, we should assess it on the same basis as the American Army.

The soldiers of Mexico often lacked discipline as two views of the defeated garrison marching out of Monterrey confirm. A private of Taylor's army wrote:

The Mexicans as a mass, appeared to look at the affair [the defeat] as an ordinary occurrence in their history. The soldiers, four abreast . . . made a line nearly a mile in length. In the rear followed the strangest medley of hangers-on of a camp that ever met the eye--youth and age, beauty and ugliness, donkey and dogs, rags and finery, all mingled together in a strange confusion and told a volume against the discipline of a Mexican Army.¹⁰²

And Lieutenant Grant, on the same spectacle, remembered:

My pity was aroused by the sight of the Mexican garrison of Monterrey marching out of town as prisoners. . . . Many of the prisoners were cavalry, armed with lances and mounted on miserable, half-starved horses that did not look like they could carry their rider out of town. The men looked in but little better condition. I thought how little interest the men before me had in the results of this war and how little knowledge they had about what it was all about.¹⁰³

Grant further noted that soldiers of the Mexican Army were poorly clothed, underfed, and seldom paid. They were, for the most part, conscripted peasants who were dismissed when wounded or no longer needed without compensation. Yet on occasion this motley group could stand and fight bravely.¹⁰⁴ Another participant in the war, Lieutenant Thomas J. Jackson (later Confederate General "Stonewall" Jackson), wrote home that the Mexicans were a brave people who sometimes fought gallantly. The reason for their defeat, according to Jackson, was a total lack of training and an incompetent leadership.¹⁰⁵

¹⁰²T. B. Thorpe, Our Army at Monterrey (Philadelphia: Carey and Hart, 1847), p. 96.

¹⁰³Grant, Memoirs, pp. 55-56.

¹⁰⁴*Ibid.*, p. 84.

¹⁰⁵Thomas Jackson Arnold, Early Life and Letters of General Thomas J. Jackson (New York: Fleming H. Revel, 1916), pp. 113, 14.

Thus, although a lack of discipline was evidenced, Jackson was also pointing to deficiencies in the other two key ingredients to victory. Perhaps an examination of one of the campaigns of a typical Mexican force will further enlighten the subject.

An apt example of how a Mexican Army was formed occurred in 1847 in the midst of the war. General Antonio Lopez de Santa Anna, already a twice deposed ruler of Mexico, returned from his latest exile in Havanna in August of that year, triumphantly entered the capital city, quickly seized power, and vowed to defeat the Americans. Santa Anna, rushed by political considerations, quickly gathered an army together. The men were a sorry lot. Some men were prisoners sent from their cells to the front, while most were frightened raw recruits without even rudimentary training.¹⁰⁷ Further, the men who formed the army were wretchedly equipped. Medicines, surgical equipment, surgeons, and doctors were almost non-existent.¹⁰⁸ These shortcomings may have been corrected with proper training, but, in this area, as his biographer Wilfrid Callcott notes, Santa Anna

. . . paid little attention to the actual training of the troops in camp. They seldom drilled in battle maneuvers and saw little of ranking officers who were to lead them into battle and in whom no confidence had been built up. Santa Anna was fine for conceiving a general scheme but he sadly needed a drill-master to take care of the essential details . . . in which he was so little interested.¹⁰⁹

If the commanding general had so little interest in training, it is not surprising that his subordinates did not emphasize it. When political pressure forced Santa Anna to move to meet Taylor, his army was characterized as

¹⁰⁶Bauer, Mexican War, p. 279.

¹⁰⁷Wilfrid H. Callcott, Santa Anna, the Story of an Enigma Who Once Was Mexico (Norman: University of Oklahoma Press, 1936), p. 244.

¹⁰⁸*Ibid.*, p. 127.

¹⁰⁹*Ibid.*, pp. 244-45.

"wretchedly equipped and scarcely organized, with desertions running into the thousands."¹¹⁰ It is scarcely surprising that this army, although it numbered between fifteen and twenty thousand men, had trouble fighting a determined enemy. It, perhaps, most closely resembled St. Clair's Americans of 1791. The Mexican army was defeated by 4,650 men of Taylor's army and sent reeling back to its base to which less than half the original force returned.¹¹¹ The Mexicans, then, were virtually untrained, and led by officers they hardly knew. They embodied everything that the Americans had learned to avoid as a fighting force.

It was, therefore, a combination of factors which produced American victory. The U. S. Army was well-trained, capable of utilizing the intricate linear formation of infantry to advantage; disciplined, able to stand enemy fire without breaking and to press home an assault through that fire; and well-led by a professional core of officers, trained at West Point, who knew the value of drill and discipline and employed both to advantage. The Mexican Army almost embodied the antithesis of these qualities. After the war, Winfield Scott would say:

I give it as my fixed opinion that but for our graduated cadets, the war between the United States and Mexico might, and probably would, have lasted from four to five years with, in its first half, more defeats than victories falling to our share, whereas in less than two years, we conquered a great country and a peace without a loss of a single battle or skirmish.¹¹²

From a Commanding General known for his rigid standards of training and

¹¹⁰Ibid., p. 250.

¹¹¹Bauer, Mexican War, pp. 206-18; Callcott, Santa Anna, pp. 251-53.

¹¹²Dupuy, History U. S. Army, p. 105.

behavior, this comment seems particularly significant. The Mexican War was not fought with new tactics. It did not demonstrate any technological change. It did, however, evidence a great change in the capacity of the American professional soldier. It served notice, small notice undoubtedly, that Americans who practiced the profession of arms had finally mastered the art of smooth-bore, linear warfare. Although the U. S. Army would often start future wars without the trained men to fight them, it would never again lack the cadre of professionals and the mechanism to provide that training. The tradition of the well-trained American professional soldier born, in the pupils of von Steuben, nurtured by Wayne and Scott, had reached maturity in Mexico.

CHAPTER II

MINIÉ'S AND MAYHEM, 1847-1865

For American infantrymen the Civil War marks a dramatically important and hideously bloody collision in history. The war was fought at a time when the technology of infantry weapons had far surpassed the tactical concepts with which they were employed. The collision that ensued when improved weapons met outmoded tactics had reverberations which completely changed the face of infantry battle. It was the catalyst which began the second phase in the evolution of American infantry assault tactics, and it provided the spark which first began an independent tradition of American tactical thought.

For the soldiers who fought the war, however, the accent must be on the hideously bloody as opposed to the dramatically important. It was their plight to be the human guinea pigs with which the evolution of warfare conducts its costly experiments. To the young infantry man of 1861, the gap between technology and tactics meant simply that when he employed the prevailing tactics of the day to assault an enemy armed with an improved weapon his chances of being killed or wounded were, sadly, all too good.¹ A key problem for infantrymen was, therefore, to evolve a tactical system which

¹Regiments frequently lost 50% of their men in one battle. Occasionally the losses were as high as 80%. (See Russell F. Weigley, History of the United States Army [New York: The Macmillan Company, 1967], p. 232.)

would close the gap between the weapons and the tactics then in use. The solution to the problem would facilitate the defeat of the enemy and, incidentally, save men's lives. How this gap was created, what soldiers did to close it, and what results these endeavors produced are questions which must be answered to understand infantry combat in the Civil War. In a larger sense because this war centered around the living and dying of those infantrymen the answers are essential to understanding the nature of the war itself.

The Civil War has been called the war of the rifled musket. This was the weapon which completely changed infantry assault tactics; thus, any understanding of those tactics must begin with it. The rifled musket, a muzzle-loading, shoulder-fired weapon, was not new to the arsenals of the world. In fact, it had first been invented in the late thirteenth century.² The rifling or grooves in the bore imparted a spin to the projectile which greatly increased its effective range over the smoothbore musket (from fifty yards to two hundred fifty yards).³ The reason for the increase in range may be explained quite simply. In a smoothbore musket, which had no rifling, the bullet was a round ball of lead which was small enough to fit inside the bore easily. When the musket was fired, this undersized bullet bounded down the barrel striking first one point on the bore and then another. Depending on what point on the inner circumference of the barrel the bullet made its last bounce before exiting, that round might strike yards off the target in

²For a discussion of the invention see Bernard and Fawn M. Brodie, From Crossbow to H-Bomb (Bloomington: University of Indiana Press, 1973), pp. 79-80. For its application to warfare in the next century, see Lynn Montross, War Through the Ages (New York: Harper and Row, 1960), pp. 382-84.

³Weigley, p. 235.

any direction.⁴ The error naturally increased with range; beyond fifty yards there was little certainty of coming near what was aimed at. With spin, however, the projectile tended to hold its line, coming straight out of the muzzle and boring through the air towards a target which could be predicted by sighting down the length of the barrel.

The major mechanical problem had always been in loading the rifle. For a projectile to adhere to the rifling, it had to be hammered down the bore with a mallet and a special ramrod. This was a slow and laborious process, reducing the rate of fire far below that of the smooth bore. Even the American "Kentucky" rifle, which employed a greased patch around the ball to ease loading, was somewhat slow, although that rifle's major drawback for large scale military use was precision essential to its manufacture. Each rifle, for instance, had to have a special model for making exact size bullets to fit it.⁵

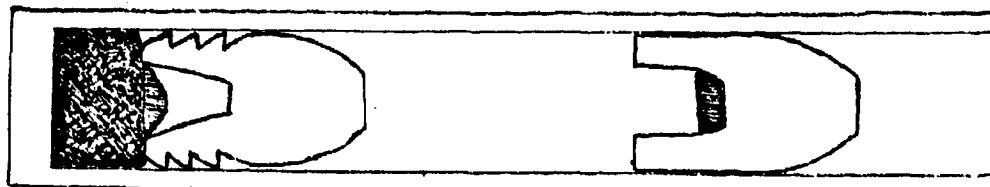
To solve the loading problem a British officer, Captain Norton of the 34th regiment, invented the cylindro-conoidal bullet in 1823. This was an elongated lead bullet whose hollow base was fitted with an iron plug. It was small enough to be quickly loaded with a ramrod, but when fired the iron plug was pushed into the hollowed base forcing the bullet to adhere to the rifling. Later experiments proved the iron plug unnecessary as the expansion of gases in the bore served the same function. (See Sketch A.) This bullet, popularized in France by a Captain E. C. Minié who gave it his name, became "The Minié ball" that ruled the battlefields of the Civil War.⁶ For the

⁴William B. Edwards, Civil War Guns (Harrisburg: Stackpole, 1962), p. 15.

⁵Brodie, pp. 79-80, 104; Montross, pp. 426-28.

⁶The bullet was neither Minié's invention nor a ball. See Brodie, p. 132; Montross, pp. 585-86.

SKETCH A



THE MINIE BULLET

first time a rifle could be loaded as quickly from the muzzle as a smooth-bore and, because of the less rigorous requirements for precision, large numbers of rifles could be produced. The Civil War was a testing ground for many new weapons, but, because of the great quantity used, the rifled handgun was to make the greatest changes on infantry assault tactics.⁷ However, as the minié ball was revolutionizing infantry weaponry, tactical doctrine in the U. S. Army had remained unchanged since the Mexican War.

The army that had fought and won the Mexican War, although shrunken by 1853 to 10,572 officers and men, had proved to the world that Americans had mastered the linear tactics of smoothbore, muzzle-loader warfare.⁸ It had taken that army over three quarters of a century to achieve success in that warfare, and having finally advanced to that level, they would be loathe to change their tactics especially without conclusive proof that change was

⁷For a discussion of other new or improved weapons see Brodie, pp. 133-36; Montross, pp. 591-92; Theodore Ropp, War in the Modern World (New York: The Macmillan Co., 1977), pp. 161-64.

⁸The army was composed of eight regiments of infantry of 400 men each, four regiments of artillery of 248 men each, two regiments of dragoons of 652 men each, and a regiment of mounted rifles of 802 men. In 1855, two more infantry and two cavalry regiments were added to the army. By 1856, army strength was 15,000 officers and men. (See Robert M. Utley, Frontiersmen in Blue [New York: The Macmillan Company, 1967], pp. 19, 22, 40-41; Weigley, p. 567.)

essential]. They did, however, receive the new rifled muskets in 1855.⁹ Also, after that year all ten companies of the regiment were ordered by Secretary of War Jefferson Davis to undergo skirmish training and the differences between light and line infantry were abolished.¹⁰ At West Point Dennis Hart Mahan taught cadets the three fundamental dispositions for attack: advanced guard, main body, and reserve. The intervals between elements were one hundred fifty to three hundred paces except where ground concealed the troops from enemy fire and the intervals could be shortened.¹¹ Mahan stressed throwing out skirmishers by the advanced guard only when close enough to engage the enemy. The line of skirmishers then pressed the enemy vigorously and were strongly supported.¹² The main body and reserve followed in column, preserved their intervals, and used cover to minimize their exposure to fire. Once the advanced guard was checked, however, they fell back. The main body then deployed in a battle line, opened fire and charged with bayonets. If they were repulsed, the reserve repeated the charge.¹³ The men who conducted these decisive charges were still in the rigid linear

⁹Eight infantry regiments received rifled muskets. The 9th and 10th Infantry and the mounted regiments received rifles (see Utley, p. 27).

¹⁰Until that time, only the two light infantry companies of the regiment had received this training. It consisted of deploying to an open order with intervals and using cover instead of standing shoulder to shoulder in a line. (See John K. Mahon and Romana Danysh, Infantry, Part 1, Army Lineage Series [Washington, D.C.: Office of the Chief of Military History, 1972], pp. 8-9; Maurice Matloff, gen. ed., American Military History, Army Historical Series [Washington, D.C.: Office of the Chief of Military History, 1969], p. 182.)

¹¹The length of the shortened interval was 80 to 100 paces (see Dennis Hart Mahan, An Elementary Treatise on Advance Guard, Outpost and Detachment Service and the Manner of Posting and Handling Them in the Presence of the Enemy [New Orleans: Bloomfield and Steel, 1861], pp. 12-13).

¹²*Ibid.*

¹³*Ibid.*

formations with men advancing shoulder to shoulder. They were formed in two ranks instead of three, but the basic assault techniques had changed little since the eighteenth century.¹⁴ The idea was to bring the dense linear formation close to the enemy's position, punish him with a volley, and then finish him with the bayonet.¹⁵ That this concept was obsolete would soon be attested to by the deaths of thousands of young men, tragically providing that conclusive proof of the necessity of change.

As the war began, however, the immediate problem confronting Americans was that of training men to fight. From a Regular Army of only 16,367 officers and men in 1861, the total numbers of men under arms in blue and gray ballooned to over one million between 1863 and 1865.¹⁶ To train these men to fight the classic linear warfare just discussed required a great many hours on the drill field and the junior officers and non-commissioned officers who could administer the drill. In 1861 the only way to learn infantry tactics was from the drill manual. The latest drill manual had been written by Lieutenant Colonel William J. Hardee who had graduated from West Point in 1838, studied cavalry tactics in Europe in 1840, and fought through the Mexican War where he was twice breveted for gallantry.¹⁷ His

¹⁴Mahon, Infantry, p. 19; Weigley, p. 235; Matloff, p. 182. It is true as John K. Mahon notes that infantry tactics had been evolving since Frederick the Great's time with one man per unit of ground where eight had been one hundred years before. And of course, the use of skirmishers to front flank had been improved on during and since the American revolution. (See John K. Mahon, "Civil War Assault Tactics," in Military Analysis of the Civil War [Millwood, N.Y.: KTO Press, 1977], p. 257.)

¹⁵Weigley, p. 235.

¹⁶Ropp, p. 176; R. Ernest Dupuy, The Compact History of the United States Army (New York: Hawthorn Books, Inc., 1961), pp. 115-16. Weigley lists 16,215 in 1860 and 1,000,692 in the Union Army alone in 1865 (see Weigley, p. 567).

¹⁷Allen Johnson and Dumas Malone, eds., Dictionary of American Biography (DAB), 20 vols. (New York, Scribners, 1930-36), 8:239-40.

two-volume work was submitted to the War Department and approved by a board of officers in 1855. The title of the book, Rifle and Light Infantry Tactics, is somewhat misleading as instructions are also included for actions of the battle line. By the 1861 edition, the title was, simply, Rifle and Infantry Tactics.¹⁸ Hardee was Commandant, USMA, from 1856 until he resigned his commission to join the Confederacy in 1861 (he became a Confederate General).¹⁹ Hardee's book and Winfield Scott's three-volume, Infantry Tactics, were the principle texts in use as the war began. With Hardee in the Confederate Army and Scott soon retired, the opportunity arose for another officer to become the foremost tactician of the army.

The officer who acceded to the position of tactical expert was Major General Silas Casey. In July of 1862 Congress appropriated fifty thousand dollars for the purchase of books on tactics to train the rapidly expanding armies.²⁰ The next month Casey's three-volume work, Infantry Tactics, appeared. On 11 August Secretary of War Edwin M. Stanton announced that Casey's tactics had been adopted for use by the United States Army.²¹ Except for the rearrangement of the order of paragraphs in one section of

¹⁸William Joseph Hardee, Rifle and Infantry Tactics, 2 vols. 2d ed. (Mobile, Ala.: S. H. Goetzel, 1861).

¹⁹Although there is no evidence to support the conclusion, it would seem logical that Hardee received this assignment at least partially as a result of his authorship of the tactics manual.

²⁰Act of 5 July 1862 quoted in: U. S. Department of War, The War of The Rebellion: A Compilation of the Official Records of the Union and Confederate Armies (O.R.), 70 vols. (Washington, D.C.: Government Printing Office (GPO), 1880-1901), series III, Volume II, p. 214; Marvin A. Kriedberg and Merton G. Henry, History of Mobilization in the United States Army, 1775-1945 (Washington, D.C.: Department of the Army, 1955), p. 121; Weigley, p. 230.

²¹O.R., Series III, volume II, p. 346.

the book and the fact that Casey produced a third volume, Casey's and Hardee's books were identical. There were at least two reasons for this. First, Casey had been the chairman of the board which had originally reviewed and accepted Hardee's drill manual in 1855.²² He was thus in a position to know the work well. Moreover, in the tradition of all American tactical manuals from Baron von Steuben's first "Blue Book" of the revolution, these books were translations of a European tactical system.²³ Since General Scott and the board published their first translated manual in 1815, Americans had learned to fight linear war by the French model. Hardee and Casey had only translated the most recent French manual for American use. The evidence hints, however, that Casey may have used his previous position to reap a substantial financial reward for a minimal effort. If he had pirated much of Hardee's work, the Confederacy did not hesitate to return the favor. Casey's volume III was published in the South by the firm of Evans and Cogswell of Columbia, South Carolina, in 1864 complete with an introduction by a Confederate officer who had known Casey before the war. The introduction praised Casey and complimented his work as a valuable addition to Hardee's book.²⁴

The reciprocal tactical arrangement, if coincidental, meant that when officers and men on both sides did learn the drill they would attempt to use exactly the same obsolete tactics against each other. It is important to understand that the words tactics and drill, which in the present have

²²DAB, 3: 560-51; William R. Crites, "The Development of Infantry Tactical Doctrine in the United States Army 1865-1898," (Masters Thesis, Duke University, 1968), p. 18.

²³Mahon, Military Analysis, p. 259.

²⁴Silas Casey, Infantry Tactics, Volume III (Columbia, S.C.: Evans and Cogswell, 1864), p. 1.

come to mean quite different things, were identical in 1861. A tactics manual was no more than a drill book. The way an army practiced for war was to line up on the drill field and execute the maneuvers outlined in that drill book. Thus, a tactical system was no more than a series of commands to align the soldiers from column to linear formation. Additionally, in July 1856 Captain Henry Heth (also later a Confederate General) translated and published a French pamphlet on rifle marksmanship. It covered all phases of marksmanship: aiming, positions, trigger pull, simulated firing exercises, and target practice. James B. Floyd, Secretary of War, ordered the system adopted by the army a month later.²⁵ This too was the system used by both armies when they trained, as they infrequently did, in marksmanship. Aside from the fact that these methods were obsolete, the initial problem was learning them at all.

The drill manuals were complicated, keyed for use by trained officers.²⁶ In the hastily raised armies of 1861, there was only the barest knowledge of these tactics and trained officers were few and far between. When present at all, they were usually serving at too high a level to influence squad or company training. The situation was almost opposite that of the Mexican War. As Civil War historian, Bruce Catton, commented on the

²⁵James L. Morrison, editor, The Memoirs of Henry Heth (Westport, Conn.: Greenwood Press, 1974), pp. xxxi-xxxii. This is not to imply that all, or even most soldiers were given marksmanship training. As Bruce Catton noted, men in the heat of battle failed to notice that they had not pulled the trigger, or they forgot to put a percussion cap under the hammer (which ignited the powder when the trigger was pulled), and they loaded ball after ball into their unfired muskets. It may be that some men preferred this to the awful kick the weapons produced. At any rate, after Gettysburg, General George G. Meade introduced daily target practice in the Army of the Potomac to teach the men to shoot. On the inability of soldiers to shoot see Bruce Catton, The Army of the Potomac, vol. 3: A Stillness at Appomattox (Garden City, N. Y.: Doubleday & Co., 1953), p. 46.

²⁶Kriedberg and Henry, p. 121.

rigorous requirements:

To get from marching to fighting formation, the soldier had to learn, and become letter perfect in a long series of intricate maneuvers. . . . If he had to march any distance he did so in a column. . . . To fight he had to spread out in a long line two ranks deep and the complexities of infantry drill in those days designed to bring this about were something today's soldier is happily spared. Furthermore, those complexities . . . had to be learned if the men were to be able to fight.²⁷

There were numerous ways to get a column into a line. To be effective in this form of warfare, officers and men had to know them well enough to perform them under fire. For a young man who had recently been a farmer in Pennsylvania or a clerk in Louisiana and now found himself elected a lieutenant or captain of infantry, the drill book to which he turned for instruction when he could get it was an incredibly complicated thing. Not even addressing movement from place to place, it took eleven commands and eighteen to twenty motions simply to load and fire one round.²⁸ When executing the evolutions, as the movements of the company, battalion, or brigade were called, things got correspondingly more complicated though no

²⁷Bruce Catton, The Army of the Potomac, vol. 1: Mr. Lincoln's Army (Garden City, N.Y.: Doubleday and Co., 1952), p. 193.

²⁸The discrepancy in the number of motions is that Casey uses one motion to load because he does not bring the weapon to present arms first. The commands and number of motions in each manual are:

CASEY		HARDEE
Motions = 18	Commands	Motions = 20
1	Load	3
1	Handle Cartridge	1
1	Tear Cartridge	1
1	Charge Cartridge	1
3	Draw Rammer	3
1	Ram Cartridge	1
3	Return Rammer	3
2	Prime	2
3	Ready	3
1	Aim	1
1	Fire	1

See William J. Hardee, Rifle and Infantry Tactics, 2 vols., 2d ed. (Mobile, Ala.: S. H. Goetzel and Co., 1861), pp. 18-21; Silas Casey, Infantry Tactics, 3 vols. (New York: D. Van Nostrand, 1862), pp. 42-48.

less rigorous.

Small wonder that the volunteer armies of 1861 which stumbled into each other along Bull Run performed so poorly. The Confederates standing on the defensive had less trouble than the Federals, who attempted to assault, and as a consequence the Confederates won the battle. In those green armies this result was completely understandable. Teaching defense in linear warfare was much easier than teaching offense. Simply align the defenders and order them to stand their ground. The attackers, meanwhile, attempt to get columns into line, align themselves, put skirmishers out, advance, stop to fire, fix bayonets, advance again. It was all hopelessly confusing even without the added terror of seeing men fall around you and enduring the terrible cacaphony of sound that marked the Civil War battlefield. Catton succinctly summarized the battle when he wrote, "The wild rout at the first Battle of Bull Run is perfectly comprehensible: most soldiers did not know how to perform these maneuvers."²⁹

That first battle awoke many people from the delusion that the war could be quickly won. To the professional soldiers, who had learned war in Mexico, it was a reawakening to the necessity of training the great volunteer horde. Back into the training camps went the armies of both sides. In the north the old infirm General-in-Chief Winfield Scott knew the essentiality of training. He had done well in two wars with trained men. As General-in-Chief in 1857, he had complained that, "incessant calls for reinforcements received from the frontiers compel us habitually to forward recruits without the instruction that should precede field service."³⁰ Now he wrote to George

²⁹Catton, Lincoln's Army, p. 193.

³⁰Utley goes on to remark that, although a school instruction was set up at Governor's Island, New York, no very thorough system of basic training prepared even this recruit in a 15,000 man army for his new vocation. It remained for regimental officers and NCO's to train their recruits, but the

McClellan, newly appointed Union commander, "Lose no time in organizing, disciplining, and drilling your . . . men."³¹

McClellan was not an admirer of General Scott, but he took this advice.³² During the fall and winter of 1861-62, he built and trained the Army of the Potomac. Of course training still consisted only of drill and more drill.³³ In the new formations, drill started with basics like teaching the soldier facing movements, manual of arms, and marching. Then it progressed to squad, company, and battalion evolutions. The private's day ended around five o'clock, but the officers and non coms attended night school run by the captains often to learn how to conduct the next day's drill.³⁴ It was a hard exacting business; tedious in the extreme, arduous work for drill master; mind numbing, yet disciplining, for the privates.³⁵ Conduct of this training was of necessity the responsibility of the company and regimental officers. Because of its nature, the amount of drill a Union regiment received varied depending to a large extent on the conscientiousness of the

chronic shortage of officers on line duty and the dispersed conditions of the regiments made this an unsatisfactory substitute. In a preview of the Civil War experience, Utley concludes that, for the most part, time and experience had to make up for the absence of formal training. (See Utley, pp. 41-42.)

³¹Letter Scott to McClellan, 3 May 1861, O.R., series I, vol. II, part 1, pp. 369-70; Kriedberg and Henry, p. 119.

³²For McClellan's opinion of Scott see Bruce Catton, The Centennial History of the Civil War, vol. 2: Terrible Swift Sword (Garden City, N.Y.: Doubleday and Co., 1963), pp. 83-91; Catton, Lincoln's Army, pp. 60-61.

³³Kriedberg and Henry, p. 121; Weigley, p. 231.

³⁴Bell I. Wiley, The Life of Billy Yank (Indianapolis: Bobbs Merrill, 1951), pp. 49-50; Lawrence Van Alstyne, Diary of an EM (New Haven: Tuttle, Morehouse, and Taylor, 1910), pp. 27-28, 29, 41-44.

³⁵Ellridge Brooks, The Story of the American Soldier (Boston: D. Lothrop, 1889), p. 238; Weigley, p. 231.

officers as well as their experience and knowledge.³⁶ Although by the end of the war the armies of both sides could execute the drill with precision, even in the heat of a campaign, the best method of providing men with effective training was combat itself.³⁷

It was in combat, even after the drill was learned, that the Minié ball, better than any lazy private or uncaring officer, destroyed the lessons of the drill field. The standard rifle, easily loaded, could reach out to destroy the shoulder to shoulder attack formations.³⁸ The defenders could open fire at five hundred yards and often could get off eight to ten volleys in five minutes. This frequently left the attacking force short of their objective and cut to pieces. In such an arena, the old fashioned linear attack was little short of murder.³⁹ Defenders added to their advantage by hiding behind stone walls or in sunken roads and finally by habitually constructing entrenchments.⁴⁰ The inadequacy and the ghastly cost of the plodding linear tactics would slowly force a search for new methods of assault, although the classic frontal attack continued to be used until late

³⁶Weigley, p. 230.

³⁷Kriedberg and Henry, p. 122.

³⁸There is no attempt to imply that any one weapon was the standard arm in the Civil War, indeed, the Union Army alone used at least eighty-one different shoulder arms (see Mahon, Military Analysis, p. 254).

³⁹Stephen Ambrose, Upton and the Army (Baton Rouge, Louisiana State University Press, 1964), p. 29. Weigley gives the maximum effective range of the rifled musket as 200-250 yards and the maximum range as half a mile (see Weigley, p. 235); Mahon states the musket could stop an attack at 200-250 yards and kill to 1,000 yards (see Mahon, Military Analysis, p. 253). For an eyewitness description of such an attack see Edwards, p. 14.

⁴⁰For a discussion of entrenchments or field fortifications see Ropp, pp. 181-82; Weigley, p. 235; Brodie, pp. 135-36; Catton, Lincoln's Army, pp. 192-93.

in the war.⁴¹

Throughout the war the brigade was the basic maneuver element. It was theoretically composed of four regiments, each of a thousand men, but in actuality was often much smaller. Regiments were rarely at full strength. In the north when a unit sustained casualties in battle, it did not receive replacements but fought on with its survivors.⁴² As a result, by the end of the war, brigades of six, eight, or ten regiments with a total strength of less than four thousand men were not uncommon.⁴³ To attack, this brigade was

⁴¹General Robert E. Lee ordered a charge by one of his commanders (General George Pickett) at Gettysburg, 3 July 1863, that would result in casualties of 3,393 of the 4,500 men of Pickett's division and of over half the 15,000 men who took part. (See Montross, p. 614; Bruce Catton, The Army of the Potomac, vol. 2: Glory Road, [Garden City, N. Y.: Doubleday and Co., 1952], pp. 310-21; Idem, The Centennial History of the Civil War, vol. 3: Never Call Retreat [Garden City, N. Y.: Doubleday and Co., 1965], pp. 188-91.) General U. S. Grant ordered a like charge at Cold Harbor in 1864 which left 6,000 men in front of the Confederate lines (see Montross, p. 623; Catton, Never Call Retreat, p. 364; Idem., Stillness at Appomattox, pp. 155-64.) Once in a while, however, such an assault was successful; consider General Thomas' assault on Missionary Ridge 25 November 1863 which carried the position and won the battle (see General Philip Henry Sheridan, The Personal Memoirs of Philip Henry Sheridan, 2 vols., 2d ed. [New York: D. Appleton and Co., 1902], I: 310; Catton, Never Call Retreat, pp. 264-65).

⁴²The single exceptions were Wisconsin regiments which were kept filled with replacements. (See General William T. Sherman, Memoirs of General William T. Sherman, 2 vols., 2d ed. [New York: D. Appleton and Co., 1931], II: 388.)

⁴³John Mahon gives some examples of regimental strengths. An average Federal volunteer regiment was theoretically composed of ten companies of 98 enlisted men and 3 officers each with a total of 1,046 men. The average actual strengths for six unimportant battles was however much less:

Shiloh	6-7 April 1862	560
Fair Oaks	31 May - 1 June 1862	650
Chancellorsville	1-5 May 1863	530
Gettysburg	1-3 July 1863	375
Chicamauga	19-20 September 1863	440
Wilderness	5-7 May 1864	440

(See Mahon, Infantry, Part 1, p. 26; Catton, Lincoln's Army, pp. 185-86.)

formed into a line of two ranks with skirmishers protecting the flanks and thrown out to the front. It was moved forward at a walk. Up to this point, the drill books were being closely followed. Now, however, a dramatic departure that would signal the end of one age of infantry war and usher in the start of another began to occur with increasing frequency.

The first instance of such a departure occurred during the battle for Fort Donelson on 15 February 1862. General (then Colonel) Morgan L. Smith's brigade was formed for attack as described above. As they advanced up a bare slope they came under heavy fire. The entire brigade lay down. The five companies deployed as skirmishers returned the fire. When the enemy fire slackened the brigade rushed, absorbed the skirmishers, lay down again and opened fire. Then, as Brigadier General Lew Wallace, commander of the division to which Smith's brigade belonged, noted in his report:

Soon as the fury of the fire abated, both regiments [the brigade was composed of the 8th Missouri and the 11th Indiana] rose up and rushed on, in that way they at length closed upon the enemy falling when the volleys grew the hottest, dashing on when they slackened and ceased. Meanwhile, our own fire was constant and deadly.⁴⁴

This first instance of an advance by rushes was to be duplicated time and time again during the war, often with far less rigidity than in its first occurrence. Troops scattered for the cover of stone walls, fences, or trees; they advanced by short rushes; and supported each other by fire.⁴⁵ General William T. Sherman wrote of Civil War attacks:

Very few battles in which I participated were fought as described in European text books viz. in great masses, in perfect order, manoeuvring by corps, divisions and brigades. We were generally in wooded country

⁴⁴Lew Wallace, "Report on the Capture of Fort Donelson, 20 Feb. 1862," O.R., ser. 1, vol. 7, pp. 238-39.

⁴⁵Matloff, p. 251; Edwards, p. 14; Frank Wilkerson, Recollections of a Private Soldier (New York: G. P. Putnam's Sons, 1887), p. 61.

and though our lines were deployed according to tactics, the men were generally found in strong skirmish lines taking advantage of the ground and every cover.⁴⁶

Arthur L. Wagner, the great American tactician of the late nineteenth and early twentieth century, called the advance by rushes along with the use of heavy skirmish lines and attacks by successive deployed lines the principal tactical developments of the Civil War.⁴⁷ But in a larger sense he missed a very significant event.

On the battlefields of the Civil War occurred a phenomenon that would thereafter remain an essential tenet of infantry combat. It was the final separation of parade ground drill and formations from infantry assault tactics. The separation was not made by the officers who wrote the tactics nor by the drill masters who kept the men to their work on the parade ground, rather, it was done by the infantrymen themselves.⁴⁸ With the characteristic American individuality, so bedeviling to generations of disciplinarians who tried to teach rigid unthinking responsiveness, infantry soldiers of the Civil War sought relief from the slaughter of the old style, close-order frontal attack.⁴⁹ They proved to be good soldiers who fought well. If ordered they showed that they could march to certain death, but if given a choice, they would find the tree or stone wall that offered protection and

⁴⁶Sherman, II: 394.

⁴⁷Arthur L. Wagner, Organization and Tactics (New York: B. Westermann, 1895), pp. 87-97.

⁴⁸G. F. R. Henderson, The Civil War: A Soldier's View, ed. Jay Luvaas (Chicago: University of Chicago Press, 1958), p. 208.

⁴⁹One French Colonel sent by Napoleon III called the American attribute "moral discipline." If there was as little real discipline in a European army as there is in this [Army of the Potomac], it would not hold together for an hour. It is the adherence to moral discipline that astonishes me (see But. Maj. Gen. J. Watts de Peyster, "Infantry," 1 United Service Magazine [June 1881]: 664).

from it advance to the next bit of cover in a rush that preserved life. They found that a friend's fire at the enemy during that rush further insured success, so they employed such continuous fire. Many of the volunteer and junior officers who learned war in these assaults readily embraced these tactics. For the older officers reared on linear tactics, however, this radical change was not to find easy acceptance. Non-acceptance was rooted in the nature of an open-order assault with its wider intervals between men and irregular formation, as men rushed from cover to cover they were very difficult for an officer to control. Instead of having the men of a company close enough together for their captain to direct with shouted commands, this new assault left a great deal to the initiative of the individual soldier. It proved much easier for these soldiers to accept this added responsibility than it did for some officers to believe that they could do so. Reluctance on the part of some officers to accept the truths of the battlefield over the doctrine of the drill field would take many years to erase.⁵⁰ Further, intransigence on this issue would manifest itself time and time again in the future to obstruct tactical progress.

Wagner mentioned attacks by successive lines and the use of heavy skirmish lines as the other principal tactical developments of the war. Indeed, many authorities have described these two types of attacks as the typical attacks of the war.⁵¹ Actually, assaults varied greatly. A

⁵⁰For a good treatment of skirmish line assaults, see Mahon, Military Analysis, p. 259; General Sherman understood both the problems of and the necessity for skirmish line assaults better than most (See Sherman, Memoirs, II, p. 395). On perseverance and bravery of soldiers in assault see Catton, Lincoln's Army, pp. 140, 269-300. This is the description of the fight for the East and West Woods and the Cornfield at Antietam; Idem., Glory Road, pp. 61-62; Idem., Stillness at Appomattox, pp. 78-87.

⁵¹Cpt. Charles F. N. Maude, Letters on Tactics and Organization (Ft. Leavenworth, Kansas: George A. Spooner, 1891), pp. 159-60; Henderson, p. 208; Mahon, Military Analysis, pp. 259-60; Matloff, p. 251.

majority probably employed a combination of the two methods.⁵² A better name for the typical attack could well have been successive heavy lines of skirmishers. To describe the difference in the two terms, it might be well to see how they appear to a defender. The heavy line of skirmishers look like a linear swarm of bees buzzing towards him. Now a man appeared here rushing from tree to tree; now two more rush to the left; now shots glance off the defenders' entrenchments. Everything was irregular (open order if you will) and targets like buzzing bees were hard to hit. On the other hand, successive lines in the classic sense were a series of ordered lines two men deep, a brigade or division long, with, perhaps, three hundred yards gap between each set of lines. The reasoning behind these successive lines was an attempt to solve the paradox of improved fire-power versus mass necessary to push home a bayonet attack. In each set of lines almost everyone in both ranks could fire, thus, making use of the firepower. In the succession of these lines seemed to lie the potential to mass and press home the successful bayonet attack. One paramount reason that these tactics were obsolete was the reliance on bayonet action to finish the charge.⁵³ They came at the defender in much more orderly fashion and presented, like an approaching parade, much better targets.⁵⁴ Obviously the defender much preferred successive lines like the Federal attacks at Fredericksburg in 1862 and Cold Harbor in 1864 and the Confederate attacks at Malvern Hill in 1862 and Gettysburg in 1863.

⁵²Wiley, p. 76.

⁵³The bayonet played a very small role in Civil War combat compared to the destruction caused by the Minié ball (firepower). Yet adherence to tactics which envisioned its use led many men to their deaths (see Mahon, Military Analysis, pp. 255-56; Weigley, p. 235; Sherman, p. 394; Wiley, p. 76.

⁵⁴Mahon, Military Analysis, pp. 257, 259-60; Emil Shalk, Summary of the Art of War (Philadelphia: J. B. Lippincott, 1862), p. 77.

However, what he was most likely to see was the melting of these successive lines into those swarming, hard-to-hit, heavy lines of skirmishers.

In the continuing attempt to overcome the stranglehold of the Minié ball on the battlefield, other variations of assault tactics were tried. One man who sought a solution was a young West Pointer named Emory Upton. Upton had graduated from the academy in 1861. He was commissioned in the artillery and served as a battery commander at Bull Run. By 1863, as a Colonel of Volunteers, he commanded the 121st New York, an infantry regiment. On May third Upton launched his men in a frontal attack right out of the drill book. His casualties were enormous, from a regimental strength of 454 men he lost 104 killed and 174 wounded. In that one attack he learned the futility of the old-style linear frontal assault. He never tried such a maneuver again.⁵⁵ By 1864 Upton was a brigade commander in the Army of the Potomac, and he had devised an assault formation based on a heavy column. The formation bunched men together one behind the other so that instead of a long line with a depth of two men, the column had a much smaller frontage, but much greater depth. Upton felt that the column could close with the enemy more quickly than the line. On May 10, 1864, Upton led twelve regiments formed in such a dense column at a run towards the Rebel lines. The men succeeded in breaking the Confederate lines, but they were not supported and mounting Confederate pressure forced them to return to Federal positions, leaving a thousand casualties behind.⁵⁶ Yet to Union commanders, the idea

⁵⁵Steven Ambrose, Upton and the Army (Baton Rouge: Louisiana State University Press, 1964), p. 22; DAB, 19: 228-30. On Upton see Ambrose and Peter S. Michie, The Life and Letters of Emory Upton (New York: D. Appleton, 1885), a contemporary biography by a friend.

⁵⁶O.R. Series 1, vol. 36, part 1, pp. 665-68; Catton, Stillness at Appomattox, pp. 112-16; Ambrose, pp. 29-33; Michie, pp. 96-98.

seemed to have merit.

Two days later the entire Second Army Corps, 20,000 strong, was formed into close order in an almost solid rectangle. One division, for instance, was forty ranks deep. This entire force was sent hurdling at the Confederate lines. Like Upton's men, they broke those lines, but they were met head on by a Confederate division determined to stop the advance. Here a major problem with the column became apparent in that only one man in forty could fight or fire his weapon. The Confederates blunted the attack in some of the fiercest hand-to-hand fighting of the war. The end result for the Federals was failure at a terrible cost. The corps' casualty list totalled 6,642.⁵⁷ The mass column was not the tactical answer to closing the technological gap.

In fact, as the soldier of the Army of the Potomac knew by the end of the summer of 1864, there really was no good solution. Armed with a rifled musket and entrenched, as he habitually was, a defender could not be displaced.⁵⁸ Yet, in his attempts to find solutions to limit the carnage of the Minié ball, the Civil War soldier had made important contributions to the evolution of American Infantry assault tactics and the nature of infantry combat. He had caused a major change in infantry war by forcing the separation of combat tactics (and, thus, training for combat) and the evolutions of the drill field. With his appreciation of the ascendancy of firepower (an appreciation many Europeans would take another sixty years to obtain),

⁵⁷On the fight for the Bloody Angle as this assault was called (see, O.R., ser. 1, vol. 34, pt. 1, pp. 335, 373-74, 409-10, 537, 539, 704; Catton, Stillness at Appomattox, pp. 122-28). On the column and casualties see Mahon, Military Analysis, pp. 261-62.

⁵⁸Catton, Stillness at Appomattox, p. 155.

he had initiated a tactical system, based on open order, minimized casualties, and the assumption of responsibility by individual soldiers, that would attempt to deal with the realities of the battlefield.⁵⁹ He had, in short, forced the United States Army to discard the linear tactics of its birth and take the first step towards the formation of a modern tactical doctrine. Unfortunately, it would take that Army sixty years to officially sanction a tactical system as effective as the one employed pragmatically by the Civil War soldiers.

⁵⁹J. E. A. Whitman, How Wars Are Fought (London: Oxford University Press, 1941), p. 86.

CHAPTER III

FROM PARADE GROUND TO BATTLE FIELD, 1865-1898

The Civil War was over. Across the nation hundreds of thousands of recent soldiers returned to their farms and shops.. For them the stark realities of the great killing ground that was the Civil War would fade in the memory with each Grand Army of the Republic reunion. For the professional soldier, however, the war had a much more lasting importance. As the Regular Army shrank to peacetime levels and resumed operations in the West, a few of those soldiers attempted to apply the costly lessons of the war to a tactical system which would find a solution to the unsolved problem of closing the gap between weapons technology and infantry assault tactics.¹ The quest for a solution would be impeded by rapidly developing technology, retarded by conservative reactionary soldiers, and encumbered by the nature of the tasks currently confronting the U.S. Army. Yet, understanding that quest and the men who undertook it is to know the history of the second phase of the evolution of American infantry assault tactics and the emergence of an independent American tactical doctrine.

The pioneer who devised the first official American system of tactics was Emory Upton. Only twenty-six years old when the war ended, he had

¹In 1866 the Army strength was 54,600 enlisted and 3,036 officers. In 1869 another reduction cut strength to 37,000 enlisted and 2,227 officers (See R. Ernest Dupuy, The Compact History of the United States Army [New York: Hawthorn, 1964], pp. 145-46).

built an excellent combat record and a sound reputation as a soldier. Having been twice promoted and once wounded since he led those twelve regiments at Spotsylvania in 1864, Upton ended the war as a Brevet Major General, Division commander in Major General James F. Wilson's cavalry corps operating in Alabama and Georgia. With the return of peace, he reverted to his permanent status of Lieutenant Colonel.²

Upton's experiences during the war had convinced him of the obsolete nature of the tactical doctrine then in use. With the war over he devised a new and simpler tactical system which he completed and submitted to the War Department in 1866. A board of officers examined the tactics and recommended their adoption by the army.³ However, a group of four generals,

²Peter S. Michie, The Life and Letters of Emory Upton (Ft. Leavenworth, Kansas: George A. Spooner, 1891), pp. 121-78; Stephen E. Ambrose, Upton and the Army (Baton Rouge: Louisiana State University Press, 1964), pp. 22-43; Allen Johnson and Dumas Malone, ed., Dictionary of American Biography (DAB) (New York: Scribners, 1930-36), 19: 228-30; Webster's American Military Biographies (WAMB) (Springfield, Mass.: G. C. Merriam and Co., 1978), p. 441; George Cullum, ed., Biographical Register of the Officers and Graduates of the U.S.M.A., 3d ed. (New York: Houghton Mifflin and Co., 1891), 2: 274-79.

³U.S. Department of War, Adjutant General's Office, Special Orders No. 264, 5 June 1866. The board members were Lieutenant Colonels (Brevet Brigadier General) Henry B. Clitz and (Brevet Major General) Romeyn B. Ayres, Mayor (Brevet Colonel) Henry M. Black, and Captain (Brevet Major) James J. Van Horn. Clitz, a graduate of West Point in 1845 (Hereafter USMA '45) was an infantry man and had been Commandant of Cadets at West Point, 1862-64, as well as instructor in tactics there 1848-55. Black, USMA '47, was also an infantry officer and Commandant of Cadets, 1864-70. Ayres, USMA '47, although an artillery man, had commanded an infantry brigade in the Army of the Potomac at Chancellorsville and a division from Gettysburg to the end of the war. He had six brevets for gallantry. Van Horn, the recorder, USMA '58, had served throughout the war as an infantry officer. As a group the board would seem to have been well suited to assess the tactical system presented. (See J. T. White and Co., ed., National Cyclopedia of American Biography [NCAB] [New York: J. T. White, 1933], 4: 255, 165; Francis B. Heitman, Historical Register and Dictionary of the U. S. Army, 2 vols. [Washington, D. C.: Government Printing Office, 1903], 1: 221, 311, 982; Cullum, 2: 242-45, 325-29, 331-32.)

Silas Casey among them, objected to the board's findings and put forth some ideas of their own.⁴ As a result, the Secretary of War appointed a new board to reconsider Upton's tactics and the ideas of the other officers.⁵ The second board made up of five general officers and a colonel (headed by Ulysses S. Grant, the Commanding General), approved Upton's tactics and in 1867 Secretary of War Edwin M. Stanton ordered their adoption by the army.⁶ They remained the standard for almost a quarter century.

Upton's book, A New System of Infantry Tactics, Double and Single Rank, envisioned infantry assault on a line of skirmishers supported by a battle line drawn up in one or two close-order ranks. The basic unit of maneuver was a four-man group around which the entire system was based.⁷

⁴The Generals in addition to Casey were Brevet Major Generals Henry J. Hunt and Thomas W. Sherman, and Brigadier General William Morris (see Michie, p. 198). Casey wanted his tactics to remain in use. Hunt, an artillery man who had been Chief of Artillery of the Army of the Potomac, and Sherman (no relation to William Tecumseh) objected to certain specific points. Morris was the only one of the four to propose a new system, but his, although an improvement over Casey's, was still a copy of a French text. (See William R. Crites, "The Development of Infantry Tactical Doctrine in the United States Army, 1865-98," [Masters Thesis, Duke University, 1968], pp. 31-33.)

⁵Ambrose, p. 62; Michie, p. 198.

⁶U.S. Department of War, Adjutant General's Office, Special Orders No. 300, 11 June 1867. The members, in addition to Grant, were Major General George G. Meade, Brigadier General Edward R. S. Canby, Colonels (Brevet Major General) William F. Barry and (Brevet Brigadier General) William N. Grier, and Major Black. All the members were West Pointers. Meade had commanded the Army of the Potomac from Gettysburg to the end of the war. Canby had commanded in New Mexico, at New Orleans, and in Alabama as well as serving under Stanton in the War Department. Barry was an artilleryman who had led artillery units during the Peninsula Campaign, commanded the artillery of the Washington defenses, and been on Sherman's staff, 1862-64. He was commander of the artillery school at Fort Monroe, Va., 1867-77. Grier was a cavalryman, but he had served as a tactics instructor at West Point, 1840-41. Black, Commandant at USMA, had been a member of the previous board. This board was less expert than the Clitz board, which originally approved Upton's work, but it had the prestige necessary to silence the dissenting generals which may well have been a reason for its existence. (See DAB, 12: 474-76; NCAB, 4:66-68, 5:333, 363-64; Cullum, 1: 703-07, 627-28, 601-08, 2: 18-24; Heitman, 1: 478.)

⁷Emory Upton, Infantry Tactics Double and Single Rank (New York: D.

In the grouping of fours Upton had found the key to simplification of the drill book. The older systems had maneuvered entire companies (about one hundred men) from column to linear formation at once. Upton's system permitted the change to be accomplished four men at a time. Although the drill was rigid and formal by modern standards, it was wonderfully simple for its day. In 1867 Upton taught it to a company of cadets at West Point in only an hour and a half.⁸

Upton's book was only one volume in length, but it covered the same material as had Casey's three volumes. And, to amplify further the simplicity of the new system, he had copied much of the manual, in areas not having to do with maneuver, from Casey.⁹ This deliberate use of many elements of the old system proved beneficial by easing the learning and adoption of the new paradigm.

From a doctrinal viewpoint the most important contribution of the new tactics was the appearance of a small unit of men as the basis for maneuver. In Upton's system the fours were locked in to prescribed movements in each evolution, but in introducing the idea he had unwittingly taken the first step towards modern infantry organization. More important this small unit of men would one day serve as the basis for the army's most effective assault tactics.

Appleton and Co., 1874), p. 7.

⁸William A. Ganoe, The History of the United States Army (New York: D. Appleton and Co., 1924), p. 317.

⁹Ambrose states the bulk of the work was copied from Casey. This included all the school of the soldier, camping, ceremonies, trumpet signals and drum and fife signals. Actually all these areas were peripheral to the basic idea and improvement of Upton's system which was the fours. See Ambrose, p. 63; Crites, pp. 36-37; Upton, Infantry Tactics, pp. 1-67, 334-434; Silas Casey, Infantry Tactics, 3 vols. (New York: D. Van Nostrand, 1862), I: 22-98.

Upton's tactical system was easy to understand, but how the man's ideas on the infantry assault evolved was not. Upton has been given credit for developing a totally new infantry attack doctrine. Eventually he came to understand the necessity for such a radical departure, but not when he wrote his book right after the Civil War. He had seen the bloody assaults of the war. In his tactics he emphasized the use of skirmishers, but his manual shows that he could not completely escape the concept of linear attack or totally advocate the use of heavy skirmish lines. Even in his revision of 1874 he wrote in the preface:

The introduction of the breech loader has changed none of the principles of grand tactics, and while it had given the impetus to the employment of skirmishers, which is to be encouraged, experience will prove that the safety of an army can not be entrusted to men in open order with whom it is difficult to communicate; but that, to insure victory, a line or lines of battle must always be at hand to support or receive an attack.¹⁰

Upton saw skirmishers preceding the infantry line and, when possible, taking the objective on their own.¹¹ He insisted that during skirmish drill officers and NCO's impress upon their men the responsibility that rests with each man to press the attack. Upton further argued that while evasive action was a desirable tactic, it must not denigrate the effectiveness of the fire sustained by the attackers; and the men should make use of "all advantages which the ground may offer them."¹² The facts that he advocated open order and limited use of cover were advances in tactical thinking. The fact that he refused to part with a line of battle was not.¹³

¹⁰Upton, Infantry Tactics, p. viii.

¹¹Ibid.

¹²Ibid., p. 117.

¹³Ibid., p. viii; Upton included a plate facing page one which illustrated the close-order formation. Each company was formed in a line of two ranks. The men shoulder to shoulder with sixteen inches between ranks: (see

Upton was appointed Commandant of Cadets, USMA, in 1870. The Commandant, in that age when drill and tactics were synonymous, was extremely important in maintaining tactical proficiency in the army. Since the man who held that office controlled the tactical instruction of the young men who would soon become junior officers, it was prudent, when possible, to appoint a man to the position who was considered a tactical expert. From the time Thayer first established the position in 1817, such men as Worth, Hitchcock, Hardee, and, now, Upton illustrated this tradition. If an officer was not regarded as a tactical expert prior to serving as Commandant, he often achieved that status during the assignment. Lieutenant Colonel Henry B. Clitz, president of the board which approved Upton's tactics, and Major Henry M. Black, who served on both the Clitz and Grant boards while Commandant, were examples. In an army fragmented in small garrisons and caught up with the numerous problems of everyday existence, which often left drill neglected or forgotten, the Commandant, his officer instructors, and the Corps of Cadets, habitually spent hours each day learning, reviewing, and practicing the intricacies of the tactical system. As long as American officers learned tactics on the drill field, the man who drilled the Corps, which produced the majority of those officers, would remain important. The problem after the Civil War was that rifled weapons had already made such tactics obsolete. Upton was Commandant for five years. In those years he refined and improved his system without changing his basic concept.

Nevertheless, Upton's thinking on tactical development was not stagnant. In 1875 and 1876, his assignment as Commandant ended, he traveled throughout Asia and Europe, as a representative of the U.S. Army to observe

idem, A New System of Infantry Tactics Double and Single Rank [New York: D. Appleton and Co., 1868], pp. 1-2).

the organization, tactics, discipline, and maneuvers of the armies of Japan, China, India, Russia, France, England, Austria, Italy, and Germany.¹⁴ When he returned from this trip his ideas of assault tactics had started to change. He wrote in The Armies of Asia and Europe, published after his return, "open order or the formation as skirmishers is the only one adopted under fire of the enemy."¹⁵ To him, however, the final assault or charge would still be delivered by a close-order line of infantry. He had seen, but could not totally accept, the German Company Column method (very similar to the American Civil War tactics of heavy skirmish lines and advance by rushes).¹⁶ He noted that the column in open order had to form a line of battle before the real attack is made.¹⁷ He thought that perhaps, in the future, the battle line would give way to the company column but he did not see that as a current possibility.¹⁸

Because Upton was the master tactician of the Army, American infantrymen continued to use his system with its limited use of cover, reliance on

¹⁴Letter, William Belknap (Secretary of War) to Upton, 23 June 1875 quoted in Emory Upton, The Armies of Asia and Europe (New York: D. Appleton and Co., 1878), pp. iii-iv.

¹⁵Ibid.

¹⁶The German company (250 men) column was employed as assault doctrine by the German battalion (four companies). The formation consisted of the fighting line (two companies) and the reserve (two companies). The fighting line was further broken down into three units. Each company deployed forty men as skirmishers. They were supported by another forty men about 150 yards to their rear (supports) and the main body of the company (reserves: 160 men) another one hundred yards to the rear. (actually distances varied with terrain). The method of advance was by a series of rushes from cover to cover until the enemy exhausted his ammunition or became demoralized, when a final rush gained victory. Upton noted this assault was "supposed" to gain victory, but that such an advance exhausted the courage of the men making it. Upton, Armies, pp. 271-75, 315.

¹⁷Ibid., p. 313.

¹⁸Ibid., p. 315.

battle lines for assault, and almost total repression of small unit leader initiative. Upton continued to think about tactics until his suicide in 1881. Towards the end of his life he seemed to have grasped the obsolescence of his system. He became convinced, as one of the officers of his regiment wrote after his death, of the

failure of his tactics and particularly of the deployment as skirmishers, [he] said if his system was adopted it would involve the country in disaster in the next war.¹⁹

To correct this failure Upton was working on a revision of his tactics. The manuscript, found after his death, proves the evolution of his thought. In it he advocated skirmishing or open order as the habitual order for company instruction. He adopted the German column idea and, significantly, wholly endorsed heavy skirmish lines and advance by rushes. In a major advance in his thinking Upton finally gave responsibility for gaining victory to the individual infantryman. He wrote:

In each position the skirmishers, singly or with their supports, seek to overwhelm the enemy by their fire or tempt him to expend his ammunition. If he shows any weakness they rush to the next cover and open fire as before. . . . They work forward man by man those in front protecting the advance of those in the rear by keeping down the enemy's fire.²⁰

It must be remembered that Upton was one of the most advanced American tactical thinkers of his time. His new system of tactics, although only the first small step in tactical evolution raised a great deal of protest. The pages of the Army and Navy Journal, a weekly magazine which began in 1863, are filled with comment on his system.²¹ The editor, William C.

¹⁹Letter, Col. Henry C. Hasbrouck to Michie, 10 February 1882, quoted in Michie, pp. 491-92.

²⁰Unpublished manuscript by Emory Upton quoted in Michie, pp. 470-73.

²¹By the end of the Grant Administration the Journal, which was very similar in format to the defunct Army and Navy Chronicle, had become the unofficial, but openly acknowledged spokesman for the Army. It served as both a channel for technical and personal information, and a trade paper

Church, made Upton a "Tactical Editor" and backed his concept.²² He did not, however, stifle argument on the system and continued to publish both positive and negative comments on it.²³ These articles showed the inability or unwillingness of many officers to grasp the new system. Certainly no better solution to the tactical dilemma was proposed. It seemed that few officers bothered with tactical study beyond memorizing the drill book. This may have been because of Upton's stranglehold on tactical thinking enforced by his friend General William T. Sherman, the Commanding General.²⁴ But, perhaps a better explanation was that in a peacetime army most officers, who had no opportunity for advanced professional education, were overwhelmed by the immediate problems of daily existence.

Two months after Upton's death, however, the first step towards correcting the lack of education in the Army was taken with the publication

which printed the latest technical developments in the military profession (see Donald N. Bigelow, William Conant Church and The Army and Navy Journal [New York: Columbia University Press, 1952], p. 199).

²²Ambrose, p. 66. The practice of appointing the man who had authored the tactical system as "tactical editor" had begun with Casey (see Bigelow, pp. 124-25).

²³For editorial support of Upton's tactics and pro and con arguments see Army and Navy Journal 29 September, 1866, p. 85; 2 February 1867, p. 373; 10 August 1867, p. 807; 22 August 1868, p. 2; "The New Tactics," 2 May 1868, p. 586; "Some Advantages of Upton's Tactics," 23 May 1868, p. 654; 16 May 1868, p. 618; 6 June 1868, p. 666; "Upton's Tactics," 13 June 1868, p. 683; "Upton's and Casey's Tactics," 27 June 1868, p. 714; 18 July 1868, p. 762; "Some Defects in Upton's Tactics," 5 September 1868, p. 39; "Upton's Tactics Reviewed," 22 May 1869, p. 630; 19 June, 1869, p. 694; "Upton's Tactics--A Biped's Whinny," 19 November 1870, p. 219; 21 March 1874, p. 507; 14 March 1874, p. 489; 28 March 1874, p. 536; 28 June 1874, p. 730; 4 July 1874, p. 746; 11 July 1874, p. 761; 12 September 1874, p. 75; 23 January 1875, p. 377; 8 May 1875, p. 616. Note: The author would like to note that he was aided in finding these articles by the footnotes in William R. Crites, "The Development of Infantry Doctrine in the United States Army 1885-1898." Without that help, finding the articles listed would undoubtedly have take a great deal more time.

²⁴Ambrose, pp. 81-82; Upton, Armies, p. vi.

of the order establishing the Infantry and Cavalry School at Ft. Leavenworth, Kansas. Actually the school first opened on 26 January 1882.²⁵ The course consisted of practical instruction in everything which pertained to army discipline, organization, equipment, care of men and horses, drill, and tactics. The school was the beginning of formalized post graduate officer education for the Army.²⁶ At Leavenworth officers who had received their commissions from civilian life, for the first time found an official school in which to study their profession. Graduates of the Military Academy had the opportunity for further professional study or for remedying mental stagnation. Some military conservatives scoffed at the idea of learning war in school.²⁷ But the school survived and came to have a great influence over military thought. That the institution survived was due to the belief of General Sherman that with the improvement of firearms officers had to be well educated to lead men on the battlefield of the 1880's.²⁸ That the school became an important instrument in formulating Army tactical thought was largely due to a single instructor in military art, Lieutenant Arthur L. Wagner.²⁹

²⁵Clarence Clendenen, Blood on the Border (New York: MacMillan, 1969), p. 139; Maurice Matloff, gen. ed., American Military History, Army Historical Series (Washington, D.C.: Office of the Chief of Military History, 1969), pp. 289-90; Marvin A. Kriedberg and Merton G. Henry, History of Mobilization in the United States Army, 1775-1945 (Washington, D.C.: Department of the Army, 1955), p. 147.

²⁶The artillery school, opened at Fort Monroe, Virginia in 1824, served as a model for this institution. (See Kriedberg and Henry, p. 147; Dupuy, Compact History U.S.A., p. 163; Weigley, p. 153.)

²⁷George G. Mullins, Chaplain 25th Infantry, "Education in the Army," 5 United Service Magazine (USM) (April 1880): 478-85.

²⁸Sherman, Memoirs, p. 395.

²⁹Clendenen, p. 139.

Arthur Wagner had graduated from West Point in 1875; served with the 6th Infantry in the West, 1876-82, 1885-86; as professor of military science and tactics at East Florida Seminary (now the University of Florida) 1882-85; and was first assigned to Ft. Leavenworth in 1886. He stayed for eleven years, heading the department of military art, until March 1897.³⁰ During his tenure Wagner became, and remained until his death in 1905, the foremost American tactician of his age. He was the final authority on tactics and strategy and he awakened many officers to the realization that their profession required endless study and practice.³¹

During the same decade as the establishment of the school at Leavenworth, some infantrymen, whose conclusions agreed with Upton's final thoughts, argued for a revision of assault tactics. Using examples from recent conflicts, these officers noted the weaknesses of a close-order linear attack. They advocated abandoning the close-order line and employing the skirmish line or group for the assault, and separating battlefield tactics from parade ground drill. One officer observed that the old battle line had become the skirmish line.³² Others stated that only skirmish lines could advance on a battlefield of the day and that attacks by successive lines must be abandoned.³³ A third group warned that drill and tactics must be separated.³⁴ "The drill field is the arch enemy of the proponent

³⁰WAMB, pp. 454-58; Major Elvid Hunt, History of Fort Leavenworth (Ft. Leavenworth, Kansas: General Service Schools Press, 1926), p. 54; Ganoe, p. 363.

³¹Ganoe, pp. 422-23.

³²W. H. Gardiner, "Infantry Tactics in Action," 7 USM (September 1882): 232.

³³T. R. Oral, "Instruction of the Infantry Soldier," 4 new series, USM (Aug. 1890): 125-29; Lt. John P. Wisser, "The Battle Tactics of Today," 4 new series, USM (July 1890): 38-42.

³⁴Lt. John P. Wisser, "The Battle Tactics of Today," 3 new series, USM (June 1890): 570; 1st Lt. Carl Reichmann, 9th Inf., "Infantry Action and Our New Drill" 8 new series, USM (Sept. 1890): 222.

of sound ideas on the battlefield," inveighed one officer.³⁵ Another pointed out that Upton's tactics were simply parade ground drill, that the General's instructions to use cover were being ignored and that the army had need of a new set of Drill Regulations to form the skeleton of a new system of tactics.³⁶

The problem of outdated tactics was exacerbated by other disadvantages endured by the infantrymen of the army. One infantry officer enumerated the problems he perceived in the Army of the 1880's:

1. No training for larger units.
2. Slow promotions. Young Captains were needed for vigorous training.
3. A want of American textbooks.
4. The Cavalry had fought the Indian Wars, giving the Infantry no experience.
5. Military Posts were remote.³⁷

All of these things, noted one officer,

caused a lack of professional knowledge extending beyond Army Regulations and the drill book, they gave rise to a perfunctory performance of duty and a lack of interest in anything except our pay.³⁸

One step towards alleviating these problems had already been taken with the establishment of the schools at Leavenworth, but the problem of the obsolete tactics remained.

The year after Arthur Wagner arrived at Leavenworth, 1887, General Phillip Sheridan, Sherman's successor as Commanding General, ordered a board convened to review the tactical system and make improvements as required. The board, which was composed of nine officers, initially met on 10 February 1888 in Washington, and, shortly thereafter, called for submission of new

³⁵Wisser, USM (June 1890): 568.

³⁶Reichmann, pp. 223-27.

³⁷Ibid., pp. 220-21.

³⁸Ibid.

tactical systems or revisions to the existing system.³⁹ By March twenty-one proposals were submitted or promised.⁴⁰ In April 1889, the board move to Fort Leavenworth, Kansas where, for over a year, it conducted tests of proposed revisions.⁴¹ This move to the Infantry and Cavalry School was both symbolically and practically important. Not all past boards had conducted tests of proposed systems, but when they had done so it was on the parade grounds at West Point. This board tested concepts in a maneuver area near Leavenworth using the infantry stationed at the school and in so doing signalled the end of a tactical system based on the close-order drill of the

³⁹Crites, p. 100. Board members were: Lieutenant Colonel John C. Bates; Majors George B. Sanford and Henry C. Hasbrouck; Captains Joseph T. Haskell, John C. Gilmore, Edward S. Godfrey, and James M. Lancaster; and Lieutenant George Andrews as recorder. Andrews was replaced in September 1899, by Lieutenant John T. French. Of these men: Bates, who would retire as Army Chief of Staff in 1906 as a Lieutenant General; Haskell; Gilmore; and Andrews were infantrymen. All except Andrews had served in the Civil War. Andrews, the only West Pointer among them, USMA '76, had seen line duty and had been professor of Military Science and Tactics at Brooks Military Academy in Ohio, 1881-83. Hasbrouck, Lancaster, and French were artillerymen and West Pointers, USMA '61, '62, and '76 respectively. Hasbrouck, who had been a close friend of Upton, was Commandant USMA, 1882-88, and had witnessed European maneuvers in 1887. Lancaster had been a tactics instructor at West Point, 1863-65, and Professor of Military Science and Tactics at Bishop Seabury Mission, 1873-77. French had served in the 4th artillery, Hasbrouck's and Upton's regiment, but other than that he seemed to have no special qualifications for the board. Sanford and Godfrey were cavalrymen. Sanford had served in the Civil War and been breveted for gallantry. Godfrey, USMA '67, had served extensively in the West against the Indians. As a member of the 7th Cavalry, he had covered Major Reno's retreat at Little Big Horn and he had won the Medal of Honor in another action in September, 1877. He was a Tactics instructor USMA, 1879-83. The board was well balanced and proved quite able in synthesizing the proposals put before it. See DAB, 2: 51-52; NCAB, 14: 34-36, 25: 370; Cullum, 2: 793-94; Crites, pp. 114-15.

⁴⁰A complete listing of personnel submitted proposals may be found in Crites, pp. 116-19 or ANJ, 21 January 1888, pp. 501, 507; 10 March 1888, p. 659. Two of the men Lieutenant Colonel H. M. Lazelle and Major H. S. Hawkins, served as Commandants, USMA; Lazelle, 1879-82, and Hawkins, 1888-92. Three others: Captain J. P. Story, Lieutenants Edward S. Farrow and E. J. McClernand had been tactics instructors at USMA and one, Lieutenant H. T. Reed, a Professor of Military Science at Southern Illinois Normal University (see Crites, p. 118).

⁴¹Crites, p. 100.

parade ground. The board finished its work and submitted its findings in 1891.⁴²

The result of the board's work was The Infantry Drill Regulations of 1891, with their publication a number of changes occurred in American tactics. First, never again would an individual be the author of a complete tactical system, rather systems would be the work of boards of officers synthesizing a number of proposals. Second, and more important, close-order drill and extended-order maneuver were separated from each other in the book.⁴³ This marked the first doctrinal separation of parade ground and battlefield. It was not revolutionary, both types of formation, open and closed order, were still to be used on the battlefield, but it was a step towards progress. The assault doctrine was basically that of the German company column with a line of skirmishers backed by supports and reserves.⁴⁴

The new system of Tactics was the subject of a lively discussion in the journals. The extended order assault received criticism from a small group of obstinate and, apparently, ignorant officers. They argued that the extended order had not worked in Europe and that American noncommissioned officers (NCO's) did not have the initiative to exercise control successfully over their men. Other, more perceptive officers, rebutted these contentions by pointing out that under the new system the NCO's would have the opportunity to get the training that would enable them to demonstrate the requisite initiative.⁴⁵ Some officers applauded the open-order attack, but

⁴²Ibid., p. 101.

⁴³U.S. Department of War, Infantry Drill Regulations (Washington, D.C.: GPO, 1891), pp. 207-12.

⁴⁴Ibid.

⁴⁵ANJ, 30 August 1890, p. 9; 9 April 1892, p. 581; 29 October 1892, p. 157; U.S. Department of War, Annual Report of the Secretary of War, 1893, part IV, pp. 749-50; Crites, pp. 103-04.

complained that the tactics still relied on the bayonet charge, not rifle fire, and that the tactics were still tied too closely to the parade ground.⁴⁶ One officer advocated simplifying the attack in order to make it easier to teach the "volunteers of the next war."⁴⁷ Such prominent soldiers as Brigadier General Wesley Merritt lent their support to the tactics, advocating acceptance of the open order. Merritt rightfully surmised that battle training and fire discipline, not the parade ground, would have to be the foundation on which infantry training rested.⁴⁸

In Arthur Wagner and the school at Leavenworth the Army had the man and the institution to make the new system work. In 1893 Wagner wrote Organization and Tactics which was initially used for instruction at the school and, finally, published in 1895.⁴⁹ It gained wide circulation among army officers. Wagner's approach to infantry assault tactics showed extensive thought and insight. "Tactics may be divided into Maneuver Tactics and Fighting Tactics," he wrote.

Maneuver Tactics furnishes the connecting link between strategy and tactics as it consists entirely of drill movements . . . all essentials of maneuver tactics can be learned from drill regulations; but fighting tactics or tactics proper require more extended consideration.⁵⁰

The organization of the regiments of the Army in 1895 was still the

⁴⁶1st Lt. Carl Reichman, "Infantry Action and Our New Drill," 8 new series, USM (Aug. 1892): 123, (Sept. 1892): 219; Cpt. J. S. Petit, 1st Inf. "New Infantry Drill Regulations and Our Next War," 10 new series, USM (July 1893): 1-13.

⁴⁷Ibid.

⁴⁸Wesley Merritt et al., The Armies of Today (London: James R. Osgood, McIlvane and Co., 1893), pp. 53-54.

⁴⁹Ganoa, p. 363; Hunt, p. 56.

⁵⁰Arthur L. Wagner, Organization and Tactics (New York: B. Westerman, 1895), p. 2.

ten company organization of the Civil War. In 1895, however, each company theoretically had a strength of three officers and one hundred three enlisted men. They were organized into two platoons of two sections each. In each section were three squads of seven privates and a corporal.⁵¹ The squads served as the basis for extended-order maneuver.⁵² Actually, companies rarely reached those numbers.⁵³ Unfortunately, the drill regulations had foreseen a regiment of three battalions of four companies each. This occasioned some problems until Congress restructured the regiment in 1898 to align it with the drill system.⁵⁴

To Wagner the principles of training could be applied to any size unit and it was on these principles that he based his ideas. To him discipline was indispensable to military organization, but he had very pronounced ideas on how that discipline was instilled and evidenced by the soldiers. In the tradition of von Steuben, Wagner believed soldiers could not be treated as unfeeling machines. Officers had to be fair men, to give orders carefully, to avoid useless sacrifices of either the men or their welfare, and to set the example of prompt obedience to orders and regulations. In return the men evidenced their discipline, not simply by being well drilled, although drill did promote discipline, but by

⁵¹One Captain, two Lieutenants (platoon leaders), one first sergeant, four sergeants (section leaders), twelve corporals (squad leaders), two musicians, and eight-four privates made up the company. See Wagner, p. 6.

⁵²Mahon and Danysh, Infantry, p. 38.

⁵³In his article on the 1891 tactics, Cpt. J. S. Pettit, 1st Inf. pointed out that a company, reduced by sickness, absentees, and details, was lucky to field sixty men (see Pettit, "New Infantry Drill," p. 2).

⁵⁴Crites, pp. 104-05.

unmurmuring endurance of hardships by the soldiers and in their willing, energetic, and intelligent efforts to perform their whole duty in the presence of the enemy. A minimum of stragglers on the march and of skulkers in battle is the best proof of good discipline.⁵⁵

Discipline was important to Wagner because his assaults were conducted in open order. Wagner's assault formation was made up of three lines. The first line was further subdivided into a firing line, supports, and reserves. The firing line was composed of scouts and skirmishers 150 yards behind them. The support was 200 yards behind the skirmishers and the reserve 300 yards behind the support. The second line was 600 yards behind the first, and the third line an additional 600 yards to the rear. In the attack (and here Wagner suggested distances which had a detrimental effect on the next set of Drill Regulations to appear in 1904), the commander kept building up the firing line by feeding squads in. The firing line advanced by rushes of thirty to fifty yards by all or part of the line. To support the rush Wagner advocated fire action whenever possible, for without such more or less continuous pressure the enemies' fire was undisturbed. To keep this continual fire directed at the enemy Wagner favored advance by a portion of the line. He further stipulated the alternative advances be made by large portions of the line to insure enough men went forward to support the advance of other parts of the line and to lessen the danger of the men in front being shot accidentally by their friends in the rear.⁵⁶

⁵⁵Wagner, pp. 39-40.

⁵⁶Ibid., pp. 116-19, 132-33. Here Wagner touches on one perennial problem of peacetime training. Perhaps the hardest type of training for soldiers to conduct realistically, but safely, is infantry assault. Every man has a weapon or weapons capable of killing his comrades and he is engaged in firing that weapon as he rushes from cover to cover. It is extremely easy to simplify this training to increase the margin of safety. Usually, however, this leads to a mind set for soldiers which becomes deadly in the ritualized assault techniques employed at the outset of the next war.

As the assaulting force moved closer to the enemy and casualties occurred, the commander continued to feed squads into the firing line. The assault progressed from 900 to 200 yards from the enemy.⁵⁷ At this point the men began rapid fire at the enemy position and at an appropriate moment, they charged.⁵⁸ This concept of assault in one form or another remained army doctrine until World War I. It was not entirely Wagner's creation, but he was the first to publicize it and insure its acceptance in the Army by indoctrinating over a decade of Infantry and Cavalry School officer students with the concept.

While tactical doctrine was evolving the development of weapons continued. During the Civil War the breech loading rifle made its large scale debut in America. It was not a new weapon. In 1811 Captain John Hall introduced a breech loader which was actually adopted by the U. S. Army. It proved unsuccessful as the seam of the breech did not lock tightly and tended to spurt flame in the firer's face. The first successful breechloader was developed at Harper's Ferry by Christian Sharps. His 1859 model proved to be the most popular breechloader of the war.⁵⁹ The repeating rifle also

⁵⁷For a three battalion regiment of infantry in a column of battalions the distances just described were as follows:

<u>Distance (Yards from enemy)</u>	<u>Action</u>
900	Skirmishers deploy
800	Skirmishers open fire
500	Firing line advances by rushes
500-450	Support absorbed into firing line
450-200	Reserve absorbed into firing line
200	Second line (2d Battalion) joins firing line and charge is conducted.

Wagner goes on to say that these distances are merely an illustration of general principles. Unfortunately they would become more than that. See Wagner, pp. 132-37.

⁵⁸Ibid.

⁵⁹Brodie, p. 133.

found its way onto the Civil War battlefield. Both Spencer and Henry repeating rifles were used in varying degrees. Upton's Cavalry Division, for example, was armed with Spencer repeaters.⁶⁰ In 1867 the U. S. Army adopted a breechloader for the infantry. At first it was only a conversion of the Springfield rifled musket to a single-shot breechloader, but better weapons gradually became available.⁶¹ By 1895 the infantry was equipped with a bolt-action, magazine-fed, repeating rifle: the Krag-Jorgenson. In 1903, after the Krag was found wanting in the Spanish-American War, the Springfield Model 1903 became the standard infantry weapon.⁶² This rifle, with a five shot magazine beneath the breech and a Mauser action, served as the infantry's standard arm until the Second World War. It was so accurate that it was still being used as a sniper rifle by U.S. Marines in Vietnam in 1970.

Along with the development of the repeating rifle came an invention that was destined, like the Minié ball, to change the face of infantry combat. The machine gun first appeared in the United States just prior to the Civil War. Some use of various machine guns was recorded during the war. It was 1867, however, before the U. S. Army first bought a machine gun in quantity, the model 1865 Gatling gun. This weapon, first patented in 1862, grouped multiple barrels around a central axis.⁶³ It was fired by turning a crank which rotated the barrels and loaded the weapon. By the

⁶⁰Ibid., pp. 134-36; Ambrose, p. 44. Dupuy, Compact History U.S.A., pp. 139-40. Unfortunately for the Army the repeating rifles were, in the interests of economy, dispensed with shortly after the war. The Cavalry who had been armed with Spencers were given a shortened model of the single-shot breechloading Sharps. See Dupuy, p. 151.

⁶¹Ibid., p. 151; Crites, p. 43.

⁶²Ibid., pp. 56-57; Dupuy, Compact History U.S.A., p. 197.

⁶³Crites, pp. 44, 49; Brodie, pp. 145-46.

1880's Gatling's gun was in use by most armies of the western world.⁶⁴ In 1884, however, Hiram Stevens Maxim devised a machine gun which operated on its own recoil.⁶⁵ This was the first automatic machine gun requiring the gunner simply to depress the trigger as the weapon fired, ejected the spent cartridge, and loaded the next by itself. A variation of this weapon, the Vickers-Maxim, was issued to the United States Infantry in 1906.⁶⁶ The battlefield that the assaulting infantryman of the last years of the nineteenth century faced, therefore, was vastly different from the fields of the Civil War. A single defender with one weapon had increased his rate of fire from two rounds a minute to 200 to 400 rounds in a minute.⁶⁷ This tremendous increase in volume of fire, like the tremendous increase in range provided by the Minié ball, was a technological improvement the infantry tactician had to overcome.

Tacticians in Europe and America had, by the end of the nineteenth century, evolved an open-order assault formation. Most of the officers had concluded that the preponderance of firepower produced by the breechloader made a dispersion formation essential for success.⁶⁸ Observers of European maneuvers and contributors to professional journals had begun to evaluate the techniques employed to advance these dispersed formations.⁶⁹ While

⁶⁴Crites, p. 52.

⁶⁵Ibid., pp. 54-56; Brodie, p. 146.

⁶⁶Although only two guns were assigned to the machine gun platoon of each infantry regiment, see Mahon and Danysh, Infantry, p. 38.

⁶⁷Brodie, p. 146; Ropp, p. 215.

⁶⁸Sherman, II: 395; Merritt, p. 54; Wagner, p. 105; even Upton had finally realized the inevitable, see Michie, p. 470; Frederick Maurice, War (New York: Macmillan and Co., 1891), pp. 42-46; F. N. Maude, Military Letters and Essays (Kansas, Mo.: Hudson-Kimberly, 1895), pp. 59-40.

⁶⁹ANJ, 9 Oct. 1897, p. 95.

a few rehashed old ideas of returning to close-order assaults which gave officers greater control, the prevailing opinion tended to agree with Sherman's pronouncement: that the education and thorough training of NCO's and privates were the keys to success on the battlefield.⁷⁰ As technology added to the complexity of infantry war, soldiers had to become more knowledgeable than ever before. The clumsy frontal attacks which could succeed when opposed by the inaccurate, slow, short-ranged fire of the smoothbore musket were doomed on the battlefield of the repeating rifle. The soldier who had once only to march forward like an automaton, now had to think independently during that assault. In short the more technology mechanized war the less of a machine the soldier became. Between the end of the Civil War and World War I the United States Army fought only two actions which tested its assault doctrine on a comparatively large scale. The conduct of those attacks and the evaluation of the results proved important to American tactical evolution.

⁷⁰Ibid., 4 Sept. 1897, p. 9; 30 Oct. 1897, p. 152; Maude, pp. 34-35, 84-85.

CHAPTER IV

DISORDERING THE LINES, 1898-1914

In a decade which spanned the turn of the century three wars were fought which effected American tactical evolution. The most significant of these for the United States Army was the Spanish-American War with its attendant conflict in the Philippines between Americans and Filipinos which continued long after the war ended. In 1898, when the Spanish-American War started, the United States Army was a small, but comparatively well-trained, force of 28,183 officers and men.¹ To fight the war, however, the army was expanded by volunteers to 10,516 officers and 199,198 enlisted men.² The war lasted only four months and of those soldiers only 16,888 actually reached Cuba.³ Luckily, this force included the bulk of the regular army, for even the best of the volunteers had seldom progressed beyond proficiency in close-order drill. General Nelson A. Miles, the Commanding

¹Marvin A. Kriedberg and Merton G. Henry, History of Mobilization in the United States Army (Washington, D.C.: Department of the Army, 1955), pp. 149, 169.

²U. S. Department of Commerce, Historical Statistics of the United States (Washington, D.C.: Government Printing Office [GPO], 1960), pp. 736-37; Russell Weigley, History of the United States Army (New York: The Macmillan Co., 1967), pp. 568-69.

³Vincent J. Esposito, ed., The West Point Atlas of American Wars, 2 vols. (New York: Frederick A. Praeger, 1959), 1: 155.

General of the Army, reported to the Secretary of War on the force that went to Cuba:

It contains 14 of the best conditioned regiments of volunteers. . . . Between 30 and 40 percent are undrilled, and, in one regiment over 300 men have never fired a gun.⁴

In a tradition as old as the nation, American militia would once again go to war with only a modicum of training.

The two major assaults of the war were launched on the same day when, on 1 July 1898, the American forces in Cuba attacked El Caney and San Juan and Kettle hills on the outskirts of Santiago. Only two regiments of the fifteen in the assaulting force on Kettle and San Juan Hills were volunteers. One, the First Volunteer Cavalry (Rough Riders), did well. The other, the 71st New York Volunteers, panicked and refused to advance.⁵ The assault was conducted frontally. One observer described the assault on Kettle hill by the Cavalry regiments:

Crawling along the ground, taking advantage of every shelter, here and there rushing forward, the troopers steadily pushed on in the face of galling fire. As they advanced the support pushed forward into the main line and many companies and some regiments became mixed; but regardless of formation they quickened their pace, rushed across the open ground and charged up the hill.⁶

⁴Kriedberg and Henry, pp. 170-71; Walter Millis, The Martial Spirit (New York: Literary Guild of America, 1931), p. 174.

⁵The other regiments were the 2nd, 6th, 9th, 10th, 13th, 16th, 21st and 24th Infantry and the 1st, 3rd, 6th, 9th, and 10th Cavalry (Dis-mounted), see Esposito, I: 156. The assault on El Caney the same day was conducted by nine Regular (3rd, 4th, 7th, 8th, 12th, 17th, 20th, 22nd, and 25th Infantry) and one volunteer (2nd Massachusetts) regiments. The volunteer regiment was armed with old Springfield breechloaders and was forced to retire from the fight. Casualties among the assaulting force were as bad as the fights for the hills. See Esposito, I: 156.

⁶Herbert H. Sargent, The Campaign of Santiago de Cuba, II: 117-18, quoted in J. F. C. Fuller, Decisive Battles of the U.S.A. (New York: Harper and Brothers, 1942), p. 352.

Captain John Bigelow, commander of Troop D, 10th Cavalry (one of the regiments which assaulted San Juan Hill), led his men up the height on that day. He remembered that the assault was not made by a line, but simply "a broad swarm of men who ran up the hill stopping only to rest or to fire."⁷ The irregular affect of the rushes was similar to the assaults of the Civil War as men ran forward a hundred yards or so, threw themselves down to rest, and rushed again.⁸ The Army and Navy Journal reported the action as, "an infantry battle won by stiff, hard fighting in which theory gave way to practice."⁹ The hills were taken, but the cost was a nasty portent of things to come. Arthur Wagner was an observer with the force. He refuted the claims of some misguided souls who felt that the success of these assaults invalidated the theory that it was suicide to frontally attack an entrenched position. In his report he noted that the percentage of loss among the assailants was nearly as great as at Fredricksburg. He saw no reason to change his opinion that, "with longer ranged firearms frontal attacks become more and more costly."¹⁰ The Journal noted that no valuable deduction could be gained from the assaults.¹¹

On the other side of the world American forces fought, first, Spaniards and, then, native insurgents in the Philippines. The terrain of

⁷Cpt. John Bigelow, 10th Cavalry, Reminiscences of The Santiago Campaign (New York: Harper and Row, 1898), p. 125.

⁸Ibid., pp. 125-27.

⁹The Army and Navy Journal (ANJ), 23 July 1898, p. 952.

¹⁰Arthur L. Wagner, Report of the Santiago Campaign (Kansas City, Mo.: F. Hudson, 1908), p. 108.

¹¹ANJ, 23 July 1898, p. 952.

these tropical islands often prohibited deploying with methods prescribed by the drill regulations. Units created new deployments which met their needs. While the drill manual called for intervals of two yards between men, for example, in the Philippines extensions of five yards or even more proved advantageous. A line so extended gave each man more freedom of action, reduced casualties, and permitted envelopment of enemy positions.¹² Such modifications also caused problems centered, once again, on the amount of individual initiative to allow each infantryman. One officer, a regular serving with a volunteer regiment, noted the advantages of the new formations outweighed the disadvantages, but pointed out that men so dispersed were hard to control.¹³ Advocates of tighter control returned repeatedly to the theme of the inability of men to advance without close supervision.¹⁴ The record, however, does not reflect any examples of such behavior. American soldiers tended to be far more likely to advance too boldly than too timidly. More prescient officers simply insisted on thorough training to insure these soldiers could use the new techniques correctly.¹⁵

¹²LtC. James Parker, 45th Vols. (Cpt., 4th Cav.), "Some Random Notes of Fighting in the Philippines," 27 Journal of the Military Science Institution (JMSI): (Nov. 1900): 330. Parker noted that almost every frontal attack was accompanied by a flank attack (see *ibid.*, pp. 322, 329).

¹³*Ibid.*, pp. 329-30. Parker insisted on control of the firing line by an officer, pointing out that Volunteers often tended not to listen to the instructions of NCO's (who were after all their peers or friends whom they had elected), but would listen to officers (see *ibid.*, pp. 330-31).

¹⁴Maj. James Chester, U. S. Army ret., "Dispersed Order and Individual Initiative in Line of Battle Work," 32 JMSI (May-June 1903): 362-63; ANJ, 18 May 1901, p. 920.

¹⁵LTC. R. Holden, "The Art of Skirmishing," 27 JMSI (Sept. 1900): 298-300; Major Robert L. Bullard, "A Moral Preparation of The Soldier for Service and Battle," 31 JMSI (Nov. 1902): 785-92; ANJ, 18 May 1901, p. 920.

The war awakened a new sense of self evaluation in the Army.¹⁶ A small part of that evaluation centered on assault tactics. For the next three years the Report of the Major General Commanding the Army uncharacteristically included comments on tactics and training. In his reports General Nelson Miles, Army Commanding General, lauded company training as an army-wide strength.¹⁷ Some of the NCO's who were castigated in 1891 had proven they had initiative. Miles also included an article by a British author which espoused assault only from open order (U.S. Drill Regulations still contained the provision for close-order assault).¹⁸ The next year, however, he included a rebuttal of that article which maintained that open order and fire action (shooting at the enemy) were only means to arrive at an end. That end was bayonet assault. To achieve successful bayonet assault a battle line had to support the skirmishers.¹⁹ Obviously, the General had not made up his mind about assault tactics. But the time for change had come, 1903 saw the retirement of General Miles as the last Commanding General of the Army.²⁰ It also saw the end of close-order assaults.

The Spanish American War had illuminated glaring weaknesses in the administration of the United States Army. Efforts to equip, train, and supply the soldiers raised to prosecute the war proved inadequate and

¹⁶Kriedberg and Henry, pp. 172-76.

¹⁷U. S. Department of War, Annual Reports, 1899, Report of the Major General Commanding the Army (RCG), 3 parts (Washington, D.C.: Government Printing Office, 1899), I: 446.

¹⁸*Ibid.*, I: 447-48.

¹⁹U. S. Department of War, RCG, 1900, Appendix F, pp. 505-06.

²⁰William A. Ganoe, The History of The United States Army (New York: D. Appleton, 1924), pp. 421-22.

scandals rocked the administration. By 1899 President McKinley, facing the 1900 elections, fired his Secretary of War and convinced Elihu Root, a New York lawyer of considerable administrative experience, to assume the office.²¹ Root thought his job would consist primarily of administering the colonies newly won from Spain. He soon found, however, that to govern these islands effectively the Army had to be improved. This led him to a general re-organization of the Army and the War Department.

Among the reforms which Root initiated was a revamping of the army higher education system. In 1901 a General Order established the Army War College Board to advance military education and to study policy.²³ Also in that year Root inspected the schools at Fort Leavenworth and the Cavalry and Light Artillery School at Fort Riley, Kansas. He designated Riley as a site for yearly maneuvers and Leavenworth as the agency for establishing Army doctrine.²⁴ By 1903, Root had established a General Staff and replaced the War College Board with The Army War College, destined to be the capstone of the officer education system.²⁵

In the same year that the War College was established, Brigadier General J. Franklin Bell was assigned as Commandant of the Schools at Fort Leavenworth. Bell was a West Pointer, class of 1878, who had spent twenty years as a cavalry lieutenant. Between 1898 and 1901 he rose from second

²¹Allen Johnson and Dumas Malone, eds., Dictionary of American Biography (DAB), 20 vols. (New York: Scribners, 1930-36), Supplement 2: 577-82; Weigley, History U. S. Army, pp. 308-12.

²²Ibid., p. 314.

²³U. S. Department of War, General Order, 27 November 1901; Weigley, History U.S. Army, p. 317.

²⁴ANJ, 27 July 1901, p. 1164.

²⁵Weigley, History U. S. Army, p. 320.

lieutenant to brigadier general, while establishing a superior record as a commander in the Philippines where he won the Medal of Honor in September, 1899.²⁶ Bell was an enthusiastic advocate of officer education. He insisted regimental commanders, who had found Leavenworth a convenient place to dump off deadbeats, send only their best officers to attend the course. Although older military conservatives called Leavenworth "Bell's Folly," this vigorous, extroverted officer developed a following among the student officers. He participated in sports with his students and addressed them and their wives by their first names.²⁷ This practice, an unusual informality in the social order of that day, was perhaps a result of the General's two decades as a lieutenant at the bottom of the social structure. Whatever the cause, Bell was admired and very popular. The environment he created was instrumental in popularizing the serious study of the military profession originated by Wagner. He went a long way toward dispelling the, "decided opposition by older officers to any studious preparation."²⁸ As Leavenworth increased in importance assault tactics were again revised.

One of the tasks assigned to the officers of the newly created General Staff was revising the Infantry Drill Regulations.²⁹ In 1904 officers from the First Division, General Staff, completed their work and

²⁶Webster's American Military Biographies (Springfield, Mass.: G. C. Merriam and Co., 1978), p. 29; J. T. White and Co., ed. National Cyclopedia of American Biography (NCAB) (New York: J. T. White, 1933), 22: 276-77.

²⁷Forrest C. Pogue, George C. Marshall, Education of a General (London: Macmillan and Kee, 1964), pp. 114-16.

²⁸George Marshall interview with Forrest Pogue, 4 April 1957, printed in *Ibid.*, p. 116.

²⁹ANJ, 11 June 1904, pp. 1080 A-D.

the Infantry Drill Regulations, 1904 were published.

In the regulations the open-order assault was the only approved assault technique. That was a great advance in assault doctrine. The problem with the regulations was the fact that they went into far too much detail. The "normal form of attack" or "normal attack" as it was called had taken the distances which Wagner had proposed as "an illustration of general principles" and cemented them into doctrine. The normal attack gave the exact distances at which the skirmishers advanced, rushes commenced, etc. It even gave the number of rounds of that each man would fire at each distance.³⁰ This standardization enabled the normal attack to be conducted with a high degree of precision in open terrain, but it was hard to adapt to broken terrain or varying situations, and it developed little initiative.

The new assault techniques represented tactical regression, but the question was whether they would be accepted by the officers who used them. More and more of those officers were seriously studying their profession. In the latter half of the nineteenth century this expanded professional

³⁰The normal attack for a company was described in the Drill Regulations. All distances were in relation to the enemy: "at 1200 yards deploy as skirmishers. At 1000 yards conduct the first halt. Thereafter halt every fifty yards until the unit reaches 200 yards. Quick time is the method used to 800 yards then double time. At 600 yards correct density is one skirmisher per yard. The chiefs of platoons and sections designate a squad or squads to fire at each halt. At the first four halts one squad in each platoon fires one round. At the next four halts two squads in each platoon fire two rounds. At the next four halts one platoon fires at will. At the next four halts the entire company fires at will. At 200 yards rapid fire is delivered. The Captain orders the charge by ordering, "Cease Firing, To the Charge March." The men advance at the double time. At thirty yards the Captain orders, "Charge." The men charge bayonets and run at the enemy. Advance by alternate platoons from any halt is authorized. Twenty five yards for the first rush, fifty yards thereafter." (See U. S. Department of War, Infantry Drill Regulations, 1904 [New York: Army and Navy Journal, D. Appleton & Co., 1904], pp. 88-89.

interest was evidenced by the appearance of a number of military journals which supplemented the Army and Navy Journal. Infantrymen had written articles for the Journal of The Military Science Institution, originated in 1878; The United Service Magazine, 1879; Cavalry Journal, 1888; and The Journal of the United States Artillery, 1892.³¹ In 1904 they found their own forum with the first publication of the Journal of the United States Infantry Association (Infantry Journal). From 1904 on, infantrymen would use this publication as a major outlet to air differing views, expose new ideas, and lobby for change.

Comments on the new mode of attack were, at first, divided. Some of the officers, who favored the attack, applauded the explicit formations, and noted that the repeated drill would instill the necessary discipline to carry the troops forward. Others applauded the increased responsibility given to junior noncommissioned officers, while a third group was simply in favor of an open-order assault.³² The officers who expressed opposition to the new regulations were divided into two factions. One reactionary officer opposed any change in drill regulations. He thought that soldiers should respond mechanically without thinking; that, "tactics were the last thing thought of" in battle; and that their only value in peace was in instilling discipline.³³ A larger number of officers, however, objected to

³¹Weigley, History U. S. Army, p. 274.

³²For views supporting the "normal attack" see Captain (Cpt) W. J. Lutz, "The New Infantry Drill Regulations," 2 Infantry Journal (I.J.) (October 1905): 132-33; General Charles King, "Drill Regulations New and Old," 1 I.J. (January 1905): 65-66; Col. James Regan, "Introductory Remarks on the New Tactics," 35 JMSI (Setp.-Oct. 1904): 189-95; Cpt.-M. J. Lenihan, 3 I.J. (Oct. 1905): 108.

³³Col. Alexander S. Bacon, ANJ, 15 July 1905, p. 1246.

the small amount of space allotted to battle tactics, some even expressed concern over the fixed pattern of the attack.³⁴ These initial expressions of opposition to the rigid form and unrealistic nature of the system would slowly build into a torrent of criticism.

Tactics that had been used in two recent wars were also debated extensively in Infantry. It was the experience of these wars which increased opposition to the normal attack. The Boer War, 1899-1902, had shown the British fixed form of attack was a failure when met by Boer's firepower. This failure had caused the Germans to change their "sealed pattern" attacks to a less centralized concept.³⁵ The Russo-Japanese War, 1904-1905, had further demonstrated the destructive power of early twentieth century weaponry. It had also shown that an attack might take hours or days as men slowly advanced the fighting formation.³⁶ These concepts, and the conflict

³⁴For comments opposed to the 1904 tactics see: Experience, "Faulty Infantry Drill," ANJ, 15 July 1905, pp. 1246-47; Cpt. George H. Baltzell, "Some Impressions and Deductions Concerning the Company of Infantry in the Attack," 3 I.J. (Oct. 1905): 102, 104-06.

³⁵The German "Buren Tactic" emphasized complete utilization of terrain to secure cover, where no cover existed 10-15 meter intervals between skirmishers, advance by 10 second rushes (the minimum time for an enemy to discover and react to the rush), rushes were made by small irregular groups, and every effort was made to develop individual initiative. See Lieutenant Colonel (LTC) J. S. Pettit, "Boers Tactics in Germany," 1 I.J. (July 1904): 99-110; G. A. Youngberg, "The Present Tendencies of German Tactics," 4 I.J. (January 1907): 35-38; Major Emil Tondenecker, "The Non-restrained Infantry Attack," ANJ, 30 December 1905.

³⁶It is interesting to note European comments on the necessity for entrenchments which the Russo-Japanese War stirred. American opinion was almost one of I told you so (American infantry had first habitually dug into the ground forty-five years before). On the increased length of attacks see, "Russia the Infantry Combat," Journal of the Royal United Service Institution (October 1905) reprinted in 3 Infantry Journal (January 1906): 212.

over whether to adopt the less formal open-order attack which was raging in European military circles, drew the opinions of American infantrymen. Many sided with the officers who advocated a less formalized attack formation.³⁷

Opposition to the normal attack was generated in the improved school system as more qualified officers attended the courses and instructors improved. The dean of American tactical thinkers, Arthur Wagner, newly appointed to the staff of the Army War College, was still concerned about the quality of officer students as a letter from him to the War Department, shortly before his untimely death, indicated. He asked the department to:

Cause a ray of light to penetrate the skulls of the superannuated individuals who have not kept pace with the march of events and who would give the detail at Leavenworth to the regimental idiot.³⁸

Yet the truth was that the caliber of both the students and instructors at Leavenworth was improving. General Bell left Leavenworth to become Army Chief of Staff in 1906 where he continued his zealous

³⁷For comments on the European controversy of dense versus open and centralized versus decentralized assault systems see Charles H. Muir, "Boer Tactics in Germany," 1 *I.J.* (October 1904): 107-08; W. D. Bird, "Infantry Fire Tactics," 2 *I.J.* (April 1906): 157.

³⁸Letter, Wagner to J. Franklin Bell, 21 February 1905, quoted in Pogue, p. 115. Wagner left the Infantry and Cavalry School at Leavenworth in 1897. He was chief of the Military Information Division of the War Department, April 1897 to May 1898. He was in Cuba as an observer June-July 1898; in Puerto Rico, with General Miles, July-August 1898; and then assigned as Adjutant General of the Dakotas. December 1899-1902 he was in the Philippines as an Adjutant General (AG), returning from that assignment to become A.G. of the Department of the Great Lakes, stationed at Chicago. He was appointed to the War College Staff in 1904 and died 17 June 1905 in Asheville, North Carolina. (See *WAMB*, pp. 455-56; *ANJ*, 24 June 1905; *U.S. War Department Official Army Register, 1906* [Washington, D.C.: The Military Secretary's Office, Dec., 1905], p. 563.)

educational policies. The loss his departure entailed at the schools was more than compensated for by the arrival of a uniquely able instructor in tactics. Major John F. Morrison, a West Pointer, class of 1881, was an infantryman who had seen service in the West; in Cuba with the 20th Infantry Regiment, and, from 1899 to 1902, in the Philippines. He had also served as an observer with the Japanese Army during the Russo-Japanese War, 1904-1906, and came to Leavenworth with a fund of the latest tactical knowledge and an original approach.³⁹ He introduced training reforms based on his observations and practical experience. He taught the principles of tactics, was at his best in a master student relationship, and made a very favorable impression on young uncommitted minds.⁴⁰ One of his greatest students George C. Marshall, future Army Chief of Staff, later said of him, "The students all took to him immediately. He spoke a language that was new to us and appealed to our common sense."⁴¹ Morrison disdained learning by rote and emphasized learning through practical exercises. He stressed dispersion and simplicity, but by making each situation different he forced his students to arrive at independent solutions for each problem. "He taught me all I have even known of tactics," wrote Marshall.⁴² For years to come the statement "I was a Morrison man" evidenced tactical knowledge and commanded a general respect in the Army.⁴³

³⁹NCAB, 23: 108; U.S. War Department, Annual Report, Commandant U.S. Infantry and Cavalry School, U.S. Signal School, U.S. Army Staff College (RCL) (Fort Leavenworth: Staff College Press, 1907), pp. 25, 37.

⁴⁰Pogue, pp. 119-20.

⁴¹Ibid.

⁴²Ibid. This was high praise for a man who would have a like effect on a future generation of young infantrymen. (See *ibid.*, pp. 265-87.)

⁴³Very much in the same way that the statement, "I was one of Marshall's men," added luster to the professional reputations of Infantrymen who had attended the Infantry School under Marshall in the 1930's (see *ibid.*, p. 266). During World War I Morrison, then a Major General, was

As a part of his program of instruction, Morrison adopted a textbook which emphasized practical exercise. The book, a recently translated version of an 1896 German work, posed a series of tactical problems which the students, with the aid of enclosed maps, would then attempt to answer.⁴³ This type of exercise forced young officers to think about tactics, and reinforced the inapplicability of the normal attack. Solutions to attack problems called for dispersion and flexibility.⁴⁴ The rigid normal attack was anything but flexible.

Along with the trend to introduce flexibility into the assault came the first realizations of the necessity to obtain superiority of fire for the assaulting force. That meant the attacker produced enough fire while he was attacking to keep the defender from effectively shooting back at him. By 1910 texts at the schools at Fort Leavenworth as well as American books on tactics advocated the use of the machine gun (considered primarily a defensive weapon) to provide the attackers with that fire superiority.⁴⁵ This concept was too advanced for employment with the structured "normal

again given a training mission. General Pershing, Commander of American forces in France, cabled Washington in January 1918, to specifically request all officers trained by Morrison be sent overseas immediately (see NCAB, 23: 108).

⁴³Major (later General) Otto Griepenkerl, Letters on Applied Tactics, trans. by a retired officer (London: Hugh Rees, 1904); RCL, 1907, p. 37. Actually the edition used at Leavenworth was translated, or possibly pirated, by an American, Major C. H. Barth, 12th Infantry, (See ANJ, 29 Dec. 1906, p. 489.

⁴⁴Griepenkerl, pp. 290-300.

⁴⁵Department of Military Art, Studies in Minor Tactics (Ft. Leavenworth, Kansas: Army School of The Line, 1908), pp. 147-51; M. F. Hannah, Tactical Principles and Problems (Menasha, Wisconsin: Banta, 1910), pp. 252-54; Griepenkerl, pp. 290-300.

attack." Even attempts to improve that attack by incorporating some support by fire proved inadequate to meet the needs of practical infantrymen.⁴⁶ Clearly the "normal attack" needed improvement.

Meanwhile reports from officers assigned to observe foreign and domestic maneuvers commented on tactics and called for reforms. As early as 1902 a War Department observer had noted the lack of coordination between infantry and artillery, and the need for a more flexible set of tactics.⁴⁷ Later, observers commented on the failure of maneuvers to simulate actual battle conditions, on the tendency of soldiers and officers to advance without the use of cover, and on the proclivity of some officers to stress alignment and exact interval over use of terrain and advance by rushes.⁴⁸ Observers at foreign maneuvers gave further indications of a growing professional appreciation for tactics. An officer who viewed the German maneuvers in 1906 castigated the Kaiser's Army for ignoring the lessons of the Boer and Russo-Japanese Wars by still advancing in "old dense formations," conducting shoulder to shoulder assaults, and neglecting the use of cover.⁴⁹ Conversely, an officer at British maneuvers the next year applauded

⁴⁶Cpt. Charles Castle, "Proposed Attack Formations for Infantry," 5 I.J. (September 1908): 180-88.

⁴⁷Charles D. McKenna, "Bloodless Battles: The Role of Field Maneuver in The Development of the U.S. Army, 1898-1912" (M.A. Thesis, Duke University, 1977), pp. 46-47.

⁴⁸Col. Clarence E. Edwards, "Personal Impressions of Manassas Maneuvers," 2 I.J. (Oct. 1904): 54; Major General Charles King and Major Charles G. Woodward, "Criticisms on Tactics, Etc.," ANJ, 11 Nov. 1905, p. 307.

⁴⁹Howard Hensman, "Some Impressions of The German Maneuvers," 40 JMSI (Jan-Feb. 1907): 126.

the use of cover to advance.⁵⁰ Such observations indicated American officers were becoming increasingly proficient in their tactical thinking and led them to advocate a more realistic domestic tactical system.

Soon opposition to the rigid style of the normal attack was voiced more loudly. One officer pointed out that in the 1880's and early 1890's the serious study of tactics had been confined to a very few officers. Life in isolated garrisons and meager official requirements had provided little incentive for original study or research. By 1908, however, thanks to the school system, the improved methods of professional communication, and the experiences of war, many officers were concerning themselves with the serious study of tactical questions.⁵¹ The next February in a lecture at the Army War College Lieutenant Colonel (later Brigadier General) Robert K. Evans, 5th Infantry, stated:

There is no such thing as a normal attack and procedure. It is, therefore wrong, if not criminal, to attempt to teach it to men who will probably not discover the mistake until they learn it through unnecessary loss of life in their first battle.⁵²

Colonel Evans continued his scathing but well reasoned sally by pointing out that the 1904 regulations treated the attack as a parade ground maneuver and that England, France, and Japan had already prohibited such a fixed form attack.⁵³ Evans lecture was printed in the Army and Navy Journal

⁵⁰Cpt. D. W. C. Falls, 7th Regt. New York National Guard, "The Aldershot Command Maneuvers For 1907," 42 JMSI (May-June 1908): 386-87.

⁵¹Cpt. Charles D. Rhodes, "How Best to Instruct Officers of our Army in Tactics," 43 JMSI (Sept-Oct. 1908): 201.

⁵²ANJ, 22 May 1909, pp. 1074-75.

⁵³Ibid.

where the editors and other officers supported his call for tactical reforms. The editors called the normal attack, "an obsolescent and treacherous relic of ante Napoleonic times."⁵⁴ Major (later Lieutenant General) Hunter-Liggett, 13th Infantry, stated that if the normal attack was, "an iron clad form to be followed, under all conditions it should be eradicated."⁵⁵ Other officers noted that the attack was usually practiced on parade grounds and called for a tactical system designed for use over varied ground.⁵⁶

The tactical discussion in the pages of the Journal did not pass unnoticed. Secretary of War Jacob M. Dickinson, a lawyer from Tennessee who had risen from private of Confederate Cavalry to become President of the American Bar Association, ordered the General Staff to convene a board of officers to revise the Infantry Drill Regulations.⁵⁷ The board consisted of three officers assigned to the General Staff: Col. Joseph W. Duncan, 5th Infantry; Maj. Clarence E. Dentler, 23rd Infantry; and Captain William S. Graves, 20th Infantry.⁵⁸ The three infantrymen solicited

⁵⁴Ibid.; ANJ, 29 May 1909, p. 1105.

⁵⁵ANJ, 28 August 1909, p. 1471.

⁵⁶ANJ, 10 July 1909, p. 1268; 24 July 1909, p. 1324; 28 August 1909, p. 1471; Captain Dana T. Merrill, "Infantry Attack," 6 I.J. (March 1910): 633-54.

⁵⁷DAB, 5: 298-99; ANJ, 22 May 1909, pp. 1074-75.

⁵⁸ANJ, 30 April 1910, p. 1040; 27 August 1910, p. 1543. Col. Duncan had been commissioned in 1873 and served as an infantryman in the Indian Wars, 1877-78, 1890-91. He received a brevet for gallantry in 1877. He served in Cuba where he charged up San Juan Hill as a captain, 13th Infantry, and was breveted for gallantry again during that action. He campaigned in the Philippines, 1899 to 1903, and was again recommended for brevet promotion for gallantry against the Moros. In 1903 he became Colonel of the 6th Infantry. In 1911 he was promoted to Brigadier General shortly after he finished work on the board. Major Dentler was a West Pointer, class of 1884, who had served at various eastern and western posts with infantry regiments, and as Professor of Military Science at Oregon Agricultural

advice from other officers, accepted suggestions from the militia, and consulted every known foreign source of infantry drill.⁵⁹ By March of 1911 the board had completed its work, but at this point a new step in the procedure was introduced.

A second board was convened at Fort Leavenworth and given the assignment of testing the recommendations of the first. This board was chaired by Morrison, now a Lieutenant Colonel. He was assisted by Captains Merch B. Stewart, 8th Infantry, and Alfred W. Bjornstadt, General Staff.⁶⁰ This able group thoroughly tested the new tactics using both the

College, 1894-98. He commanded an infantry company in Puerto Rico and the Philippines, 1898-1903; had attended the School of the Line at Leavenworth, 1907-08; and the Army War College, 1908-09. He served in the office of the Chief of Staff, U.S. Army, following graduation. Graves was also a West Pointer, class of 1889, who served in the West from 1889 to 1899, then in the Philippines, 1899-1906. While there he was in General Bell's brigade for a time and received Bell's thanks for gallantry in action in 1902. He returned to the United States in 1906 and was assigned to the General Staff in 1907. 1909 to 1912 he served with the General Staff in Washington. During World War I he was a Major General and Commanded the American Expeditionary Force in Siberia. Thus, all three men had extensive infantry backgrounds in peace and war and were quite qualified to modify the Infantry Drill Regulations (see Cullum, 3:382, 429-30; 4: 392, 487; 5: 360, 440; 6A: 382, 532-33; 7: 215, 292-93; Heitman, pp. 368, 388, 471; Albert Marquis, ed., Who's Who in America [Chicago: Albert Marquis and Co., 1912], 7: 605).

⁵⁹ANJ, 27 August 1910, p. 1543.

⁶⁰Morrison remained at Leavenworth until 1912 and had authored several volumes on tactics. Stewart, a West Pointer, 1896, was an infantryman who had served in Cuba and the Philippines. In 1903 he wrote a handbook of infantry NCO's and in 1906 he added a book entitled The "N" th of Foot. He had already built a reputation as something of a tactician. After World War I he would become Commandant, 1923-26, then Superintendent, 1926-27, of West Point. Bjornstadt was an infantryman, commissioned in 1898 as a volunteer, who had fought thirty-four actions in the Philippines, 1898-1904. In 1909 he was the Honor Graduate of the School of the Line at Leavenworth, and in 1910 he repeated as Honor Graduate at the Staff College. Morrison, undoubtedly, knew him well and appreciated his quick mind and sound grasp of tactics. Thus, the board which tested the tactics was headed by the foremost tactician of the Army and included two very able assistants. (See NCAB, 23: 108, 25: 286, 26: 103.)

garrison troops at Leavenworth and the Maneuver Division which had assembled in Texas. The tests proved successful and the revision became the Infantry Drill Regulation, 1911.⁶¹

The new regulations contained many changes in assault tactics. The basic attack still consisted of three lines: firing line, supports, and reserves, but the movement of those lines to the enemy was completely de-regulated.⁶² The bulk of the infantry assault techniques were left to the initiative of the individual unit commander. No longer was a leader forced to advance a specified distance regardless of circumstances. The charge, for example, could be delivered, "from 25 to 400 yards according to the instinct of the attacking officer."⁶³ A rush defined in 1904 as an unvarying 50 yards, could now be 30 to 80 yards depending on terrain.⁶⁴ The new regulations emphasized that a soldier be taught to spring up rapidly and run quickly to a new firing position so as to provide a poor target for enemy marksmen. He was also to, "practice crawling from point of cover to point of cover."⁶⁵ Captain Bjornstadt later said, in a lecture to the New York Military Institute, that the new regulations followed the German school of attack: "persistent advance under fire superiority." They were predicated, he stated, "on sound doctrine of combat tactics."⁶⁶ The new

⁶¹U.S. Department of War, Infantry Drill Regulations, 1911 (Washington, D.C.: GPO, 1911).

⁶²*Ibid.*, pp. 80-114.

⁶³*Ibid.*, p. 112.

⁶⁴*Ibid.*, p. 80.

⁶⁵*Ibid.*, p. 44.

⁶⁶The choice had been between following the German school or the Japanese school which was a much slower method of attack. Bjornstadt noted that following the German school, "seemed best suited to the character of our people" (see "The New Infantry Drill," ANJ, 3 February 1912, p. 703).

regulation provided exactly the flexible, realistic instructions infantrymen had demanded.

The new tactics immediately produced a great deal of comment in The Army and Navy Journal and Infantry Journal. A few officers criticized the regulations. One stated that the company frontage was too small, another that there was, "not enough How to" in the regulations.⁶⁷ This minority, however, was quickly rebutted and totally overwhelmed by the laudatory comments on the new system.⁶⁸ The regulations were called the best drill regulations to date. The editors of the Journal and others applauded the latitude given commanders and the emphasis on combat over parade ground tactics.⁶⁹ In the last of a series of articles reviewing the new system editor William Conant Church pronounced emphatically, "The normal attack is dead."⁷⁰

With the publication of the 1911 system, infantrymen had a set of regulations which provided the best chance for success and survival in attack that they had seen since they devised their own techniques in the Civil War. The regulations did, in part, owe their existence to warfare, but, significantly, it was not American warfare. By 1911 the American infantry had a character and a tradition all its own. It was sufficiently

⁶⁷Letter from E. B. B., San Antonio, Texas, ANJ, 15 Oct. 1911, pp. 216-17; Letter from J.B., ANJ, 1 Nov. 1911, p. 308; R.F.F., "The New Drill Regulations," ANJ, 18 Nov. 1911, p. 340.

⁶⁸For the rebuttal see "Infantry," ANJ, 28 Oct. 1911, p. 248.

⁶⁹Ibid.; ANJ, 9 Dec. 1911, p. 436; W. C. and F. P. Church, ANJ, 19 August 1911, p. 1550; 16 Sept. 1911, p. 74; Cpt. C. S. Lincoln, "The Development of Infantry Organization and Tactics," 7 I.J. (January 1911): 586-600; Cpt. Dana T. Merrill, "The Spirit of the Offensive," 8 I.J. (July-August 1911): 68-72.

⁷⁰ANJ, 23 Sept. 1911, p. 104.

professional to assess the developments in the tactical world, to adopt some of the best foreign ideas, and to blend them into the American tactical system. To be sure there were still complaints about training. But after 1911 they centered not on faults with the system but on faults with what training was being conducted. In 1913 Major, later Major General, J. W. McAndrew wrote, "Our army receives a surfeit of drill and not enough training. All drill is training but all training is not drill. In fact, for infantry, drill is but a small part of training."⁷¹ McAndrew went on to say that drill produced automatons while training, "makes the dependable soldier who can be relied on when the qualities of mind and soul are called into play."⁷² These were the comments of a concerned professional soldier trying to make a good system better. Other infantrymen voiced their confidence in the way American soldiers were handling the training made possible by new regulations. Assaults were irregular and extremely effective in maneuver areas.⁷³

A far greater challenge than maneuvers, however, awaited the American Army. In 1905 Captain John J. Pershing, American observer with the Japanese in the Russo-Japanese War, when asked how the American soldier compared to the Japanese, replied, "Better. The American is the best soldier--the best material if well trained."⁷⁴ It was 1914 and, within

⁷¹Major J. W. McAndrew, "Infantry Training," 10 I.J. (November-December 1913): 318.

⁷²Ibid.

⁷³"Effect of the New Tactics on the Operations of Infantry," 11 I.J. (September-October 1914): 242-46; Cpt. A. W. Bjornstadt, "Infantry Combat," 8 I.J. (May-June 1912): 822-42.

⁷⁴Frank E. Vandiver, Black Jack The Life and Times of John J. Pershing, 2 vols. (College Station, Texas: Texas A & M Press, 1977), I: 378.

three years Brigadier General John J. Pershing would assemble many of those American soldiers and prepare them for the biggest test they had faced in over half a century. American infantry assault tactics had evolved a long way in those fifty years. It had taken almost all of that time for the approved doctrine to arrive at the flexible heavy line of skirmishers that infantrymen had informally adopted in the Civil War. After 1911 the American infantry had an improved form of that doctrine. Infantry soldiers also had professional officers and NCO's, well trained in Army schools, who had studied those tactics and knew how to use them. The U. S. Army was a superb little professional force in 1914, but the key word was little. As late as 1 April 1917 the total strength of the Regular Army was only 127,588 officers and men.⁷⁵ By 11 November 1918 the Army had swollen to a strength of 3,685,458.⁷⁶ How the advanced assault tactics would fare when imposed upon a mass Army was the question to be answered as American infantrymen read of slaughter in the trenches and the government began the course that eventually would feed American soldiers into the bloody jaws of war.

⁷⁵Kriedberg and Henry, p. 221.

⁷⁶Ibid., p. 246; U. S. Department of Commerce, Historical Statistics of The United States (Washington, D.C.: GPO, 1960), pp. 736-37.

Chapter V

RUPTURING THE LINES, 1914-1919

As World War I began in Europe during the hot August days of 1914, the official tactical doctrine of the United States Army was enthusiastically supported by the great majority of army officers. The tactical system was embodied in The Infantry Drill Regulations, 1911. Attacks were conducted in a formation of successive lines which could be advanced in a variety of ways at the discretion of the unit commander. On a small scale such attacks seemed perfectly flexible, realistic, and adaptable to any conditions.

Infantry Journal reported enthusiastically:

Infantry no longer advances by any conventionally organized movement. The troops crawl along the ground. They sneak over and around undulations in the soil. The men are flat on their stomachs. Then when the least pause occurs in the firing these men leap up for a minute, hurl themselves forward, not as a body but individually and independently in bounds and begin hugging the ground afresh.

The fire of the men was irregular and intermittent. As they closed on the objective they formed a "fire line," reinforced it, and, at an appropriate moment, charged.² Most Infantrymen were convinced that they had an effective method of assault and they stuck closely to the prescribed manual.

The Army advocated maneuver whenever possible as opposed to frontal attack and had incorporated supporting machine gun fire into these assaults.

¹"Effect of the New Tactics on the Operations of Infantry," 11 Infantry Journal (I.J.) (September-October, 1914): 243-44.

²Ibid.

The approved solutions to the map problems at the Army School of The Line, a successor to the Infantry and Cavalry School at Fort Leavenworth, invariably dictated envelopment with machine guns positioned to support by fire.³ During training exercises officers were indoctrinated with the idea of maneuver, as the men were taught the withy techniques of assault. While most units were garrisoned in small posts throughout the United States, larger units sometimes gathered in the Philippines for campaigns, although by 1914 only the Moros on the southern islands were still troublesome and campaigns were few. In those campaigns important tactical lessons had been taught in the past. Colonel Evans verbal assault on the normal attack in 1909 had been based partially on his experiences in the Philippines. By 1914, however, American infantry tactics had evolved far beyond the capabilities of the Moros. Infantrymen found themselves able to defeat the poorly trained islanders with elementary techniques. In 1913, for example, an attack on a Moro position was conducted by three companies of infantry without the use of cover. The firing line advanced by firing, moving forward two steps while reloading, halting, and firing again. The technique proved effective against the relatively untrained Moros, but no soldier would suggest it for use against a European army.⁵ On the small separated posts, during training exercises

³Department of Military Art, Army School of The Line, Map Problems, 1912-1913, 1913-1914 (Fort Leavenworth: Army Service Schools, 1914), 1912-1913: Part I, pp. 29-35; Part IV, pp. 24-25, 57-58. 1913-1914: Part I, pp. 37-40; Part II, pp. 54-55.

⁴Occasionally units would be brought together for maneuvers, or to face a threat such as the Maneuver Division in Texas, 1911 or the 2d Division at Galveston, 1913. Both divisions were assembled in response to revolutions in Mexico. (See: Marvin Kriedberg and Merton Henry, History of Military Mobilization in the U.S. Army, 1775-1945 [Washington, D.C.: Department of the Army, 1955], pp. 196-99; Russell F. Weigley, History of the U.S. Army [New York: MacMillan Co., 1967], pp. 334-35; Clarence C. Clendenen, Blood on the Border [New York: MacMillan, 1969].)

⁵Major C. T. Alden, "The Engagement of Saphia's Cota Number One on the Island of Jolo, Philippine Islands in 1913 (Monograph, Infantry School, Fort Benning, Georgia, 1928-29), p. 9.

With comparatively few troops, and on campaign against primitive foes, linear tactics seemed perfectly suited to infantry requirements.

What American infantrymen did not know was that when attempted on a large scale any linear tactics became inflexible because preserving the line was a primary object. Once an attack was initiated the leaders had little option to change their direction of attack or their objective. They could advance using any one of a number of techniques, but the advance was always in line and always straight ahead. Although U.S. Army doctrine called for enveloping attacks whenever possible, these attacks were conducted in the same linear formation. The advantage was gained by keeping the opponent from adjusting to meet the attack. If the enemy did adjust, however, the assaulting force had to continue with what had become a frontal attack. One should not imply, however, that American tactics were comparatively inferior. No tactician in 1914 had seen beyond the flexible linear attack and American infantry tactics did incorporate more flexibility than most. Soon, however, the bloody carnage of trench stalemate would cause perceptive soldiers to reevaluate tactics.

The conflict in Europe had begun as a war of movement with soldiers enacting the Schlieffen Plan and fighting the battles of the frontiers, but by December it had ground to a standstill of opposing trenches, and the assault tactics of European armies began changing in efforts to break the enemy lines. In the opening battles the French had lost 400,000 men, many of whom died, still clad in their red trousers, charging foolishly into the fire of German machine-guns. A French Captain who had lived through those assaults noted the attack was characterized by a single furious rush and that, "Infantry units disappear in the furnace of fire like handfuls of straw."⁶ As historian S. L. A.

⁶Cpt. Andre Laffargue, 153rd French Infantry, "Study on the Attack in the Present Period of War," 13 IJ (September-October, 1916): 102.

Marshall commented, "the French showed ardor and nothing else."⁷ These assaults were products of the French Army's prewar belief in the indomitable power of French élan and its faith in the offensive. Yet, they did typify two of the classic tactical theories of Europe: the emphasis on closing with the enemy and doing him in with the bayonet, and the necessity of imposing a strict order on infantry assault. Inability of some armies to overcome these two ideas was to create mortal problems for the soldiers of the Great War.

When the British began their attacks on the German trenches in 1915 they too used linear formations. In assault after assault the British troops, without taking cover, walked forward in successive lines against the German positions and were decimated.⁸ One particularly morbid example was the attack of the 21st and 24th Divisions at Loos as recorded in the war diaries of the German regiments that opposed them. At 1100 hours on 25 September 1915 the ten thousand of men of the two divisions rose from their trenches, aligned themselves, and started forward. The war diary of the 153rd German Regiment noted:

. . . dense masses of the enemy, line after line appeared over the ridge, some of their officers even mounted on horseback, and advancing as if carrying out a field day drill in peacetime.⁹

The diary of the 15 Reserve Regiment left a grim commentary of what followed:

⁷S. L. A. Marshall, The American Heritage History of World War I (New York: American Heritage, 1964), p. 49.

⁸Some excellent tactical treatments of this part of the war may be found in: G. C. Wynne, If Germany Attacks (London: Faber, 1940), pp. 42-51, 75-77; Alan Clark, The Donkeys (London: Hutchinson, 1961), pp. 80-81, 94, 96-97, 170-171, 173; Alstair Horne, Death of A Generation (New York: American Heritage, 1970), pp. 19-22, 29, 39.

⁹War Diary, 153rd German Regiment, 25 Sept. 1915, quoted in Clark, p. 173.

. . . ten ranks of extended line could be clearly distinguished, each one estimated at more than a thousand men and offering such a target as never seen before or even thought possible. Never had the machinegunners such straightforward work to do nor done it so effectively. They traversed to and fro along the enemy's ranks unceasingly.¹⁰

The British lost 385 officers and 7,861 men in that assault and never reached the first German trench.

One effort to overcome the tactical deadlock of the trenches was to precede each attack by longer and longer barrages of artillery fire. From a forty-five minute preparation on Aubers ridge, 9 May 1915, the bombardment stretched to seven days before the first battle of the Somme, 1 July 1916.¹¹ The artillery was largely ineffective because the barrage was lifted before the assaulting infantry had left their trenches. Consequently, the defenders easily clambered up out of their shellproof dugouts and manned their positions long before the opposition had crossed no-man's land.

By the end of 1915 this brutal, bludgeoning fighting was changing the philosophy of assault. At the outset of the war European assault tactics had all been some version of the three-line, extended-order system like that espoused in the 1911 American manual. These tactics required the infantry leaders to use rushes, employ cover, attain fire superiority, and, when the firing line was close enough to the enemy, charge. As the armies lost experienced leaders and stagnated in the trenches, however, these tactical systems were simplified. The British, as Brigadier F. A. Stone stated in a lecture to the Royal Artillery Institute in November 1915, began to teach that, "the preliminary phases of infantry attack no longer exist in trench warfare; the

¹⁰War Diary, 15th German Reserve Regiment, 25 Sept. 1915, quoted in Horne, p. 39.

¹¹Ibid., pp. 29, 82.

infantry combat begins with the charge."¹² These changes were reported in American journals. In December 1915, Infantry Journal characterized a charge as, "thousands of men simply clamber over the parapet and dash for the enemy trench."¹³ It was a very elementary and wasteful form of attack, yet with little modification the British would adhere to this philosophy until after the war. By the time of United States entry this method of attack was firmly installed as British doctrine.

The French, meanwhile, were making some very different changes in their tactical system. In 1916 the French began to experiment with infiltration. They sent assaults forward as groups of men rather than as lines. These combat groups used the available cover and provided supporting fire for each other as they advanced by rushes. During the Somme battles in July the French enjoyed some success with these tactics as the British sent their volunteers forward in ordered lines losing 60,000 men on July first alone.¹⁴ In an article for Infantry Journal Major G. E. Bertrand, a French infantryman, later noted that all maneuver depended on a combination of fire and movement. "One unit of infantry advances," he wrote, "helped by the fire of the neighboring unit."¹⁵

The two allies destined to be the teachers of the American Army in 1917 and 1918 were manifestly moving down divergent tactical roads, but

¹²Brigadier F. G. Stone, "Cooperation Between Artillery and Infantry in the Great War," ¹³I.J. (March, 1917):931.

¹³"The Lesson of Trench Warfare," ¹²I.J. (December, 1915):504-505.

¹⁴The best description of the tactics of the Somme battle is in John Keegan, The Face of Battle (New York: Vintage, 1977). Also see Brian Gardner, The Big Push (New York: William Morrow, 1966) and Horne, pp. 81-93.

¹⁵Maj. G. E. Bertrand, "Tactical Qualities of Infantry," ¹⁵I.J. (October, 1918):276.

tactics alone could not defeat the impasse of the trenches. In 1916 the French first discovered that if the artillery barrage were laid down directly in front of the advancing infantry and could then be moved forward as the infantry advanced the defenders could be caught while still in their deep dugouts. This idea was adopted by the British with some success in 1917.¹⁶

By 1918 the creeping barrage was a standard feature of almost all infantry assaults.¹⁷ The tank also made its first large scale appearance in 1917.

At Cambrai on 30 November British infantry followed 324 tanks in a very successful attack. The assault, which resulted in 4,000 British casualties, had taken more ground in one day than had the Third Ypres offensive which lasted four months and cost Britain 244,897 men.¹⁸ The tank and the creeping barrage

¹⁶Although Sir Herbert Plumer, the Commander of the Second British Army, was credited with the first use of the creeping barrage at Messines Ridge, June 1917 (see Charles Harrington, Plumer of Messines [London: John Murray, 1935], pp. 87-91; for the 1917 campaign see Leon Wolff, In Flanders Fields [New York: Viking, 1958]), two Dominion officers, Sir Arthur Currie, a Canadian, and Sir John Monash, an Australian, seem to have been the first to propose the use of the creeping barrage in the British Army. Both these officers displayed a capacity for tactical analysis sadly lacking in most of their British compatriots. After the Somme, for example, Currie, then a division commander, interviewed every surviving unwounded officer and three enlisted men per company to determine why the assaults failed. He also visited Verdun and made notes on the new French tactics in use there: infiltration and the creeping barrage. On Currie see Albert M. J. Hyatt, "The Military Career of Sir Arthur Currie" (Ph.D. dissertation, Duke University, 1964), pp. 97-99, 104-106. Monash's book The Australian Victories in France (New York: E. P. Dutton, 1920) evidences an excellent grasp of tactics.

¹⁷Lt. Col. J. L. V. Clarke, East Yorkshire Regiment, "Notes on Infantry Work on the Western Front," 14 IJ (May, 1918):858.

¹⁸Wilfrid Miles, Military Operations in France and Belgium, The Battle of Cambrai (London: His Majesty's Stationery Office, 1948), p. 352; Marshall, pp. 214, 220-221. The story of tank development, while not of critical importance to this paper is, nevertheless, illuminating in helping to understand British military thought. The tank was a British idea, but opposition to use of the vehicle was also strong. The breakthrough at Cambrai, for example, was not exploited because no reserves had been provided for that purpose. (See: James Cary, Tanks and Armor in Modern Warfare [New York: Franklin Watts, 1966], pp. 34-36, 55-59; A. M. Low, Tanks [New York: Hutchinson, 1941], p. 34; Basil H. Liddell-Hart, Reputations Ten Years Later [Boston: Little, Brown, 1928], pp. 126-127; idem. The Tanks, 2 vols [New York: Praeger, 1959], 1:16, 131-32,

would play key roles in the education of the American Army and, eventually, in breaking the stalemate of the trenches.

Both allied nations had de-emphasized the rifle. At the beginning of the war the little British Army had been famed for its musketry, but by 1917 a manual for commanding officers stated, "The assault no longer depends on rifle fire supported by artillery fire, but by artillery fire solely."¹⁹ The French also gave little attention to the rifle, preferring to support their attacks with artillery, grenades, and automatic weapons. The British went even further. In what amounted to an attempt to reverse tactical progress by a hundred years British Army doctrine claimed, "The decisive factor in every attack is the bayonet."²⁰ Thus, assaulting troops were ordered not to lay down or fire their weapons during assault, but to walk forward behind a creeping barrage in lines with a five pace interval between men and attempt to bayonet the enemy. Since the automatic rifle was of little use in such an endeavor, no firing being permitted during the advance, British assault troops were directed to leave half of their Lewis gun (automatic rifle) magazines in the old front line trenches to be brought forward later.²¹ In 1917 British

[41; Kenneth Macksey, Tank Warfare (London: Rupert Hart Davis, 1971), pp. 46-47; C. D. Baker-Carr, From Chauffeur to Brigadier (London: Benn, 1930), pp. 144-145; Douglas Orgill, The Tank (London: Heineman, 1970), pp. 22-23, 34, 41-46; Arch Whitehouse, Tank (Garden City, N.Y.: Doubleday and Co., 1960), pp. 20, 26-28, 38).

¹⁹Senior Officers School, Notes for Commanding Officers (Aldershot: Gale and Polden, 1917), p. 219.

²⁰Ibid.

²¹Ibid., pp. 194-195, 223-224, 227. One finds it hard to understand such doctrine, perhaps it was a manifestation of the disdainful attitude of some British officers towards machine weapons in general. Brigadier Baker-Carr, who ran the British machinegun school in France and later commanded a tank brigade, provides some useful insights into this attitude (see Baker-Carr, pp. 71, 79-80, 86-89, 97, 100, 150-53, 260-61, 269-70). For other authors comments see: Peter Firkins, The Australians in Nine Wars (Sydney: Rigby, 1971), pp. 126-127; George W. L. Nicholson, The Gunners of Canada, 2 vols. (Toronto/Montreal: McClellan and Stewart, 1967), pp. 314-15; Cary, p. 55; Liddell-Hart, Tanks, I:

assault training, as dictated by the Field Service Regulations, ended with a soldier charging the last twenty meters to the objective, then, bayoneting five and shooting one of the enemy.²² The British were making use of technological improvements, but their tactical ideas were archaic.

The United States entered the war on 6 April 1917 and the nineteen officers on duty with the General Staff began planning to send an American army to France.²³ The General chosen to lead those soldiers was a cavalry man known as a stickler for regulations. A man who had led black soldiers of the 10th Cavalry up San Juan Hill in 1898, fought the Moros on Mindanao in 1900, observed the Russo-Japanese War, and led the Punitive Expedition against Pancho Villa in 1916, John J. Pershing was to prove a good choice as the American commander.²⁴ In early June he and his staff arrived in France to be followed later that month by the first four regiments of American soldiers. Along with problems of command and utilization of his troops, Pershing faced allied officers whose ideas of training differed significantly from his own.

The Americans were trained in two increments with the first portion of their training conducted in the United States. The newly inducted volunteers and draftees were collected in camps throughout the country, organized into

141; Whitehouse, pp. 20, 28.

²²British Army Field Service Regulations, "Assault Training," 14 1.J. (January, 1918):529.

²³Marshall, p. 206.

²⁴The best biography of Pershing is Frank E. Vandiver, Black Jack, The Life and Times of John J. Pershing, 2 vols. (College Station, Texas: Texas A. & M. Press, 1977). Also valuable are John J. Pershing, My Experiences in the World War, 2 vols. (New York: Frederick A. Stokes, 1931); Fredrick Palmer, John J. Pershing, General of the Armies (Harrisburg, Pa.: Military Service Publishing Co., 1948); Richard O'Conner, Black Jack Pershing (Garden City, N. Y.: Doubleday and Co., 1961).

divisions, and given preliminary military training.²⁵ This training consisted of close-order drill, sanitation, rifle marksmanship, and tactical instruction. Providing tactical instruction presented a problem to the infantry. As the army swelled, most competent professional soldiers found themselves quickly promoted to high rank. While generals and colonels dictated policy and established doctrine, it was the sergeants and the company grade officers, the lieutenants and captains, who taught infantry soldiers their skills and led them into battle. Before U. S. entry into the war, some efforts, such as the Plattsburg Camps, had given a few young men introductory military training in drill, tactics, sanitation, care of troops, and rifle practice, but more officers were needed.²⁶ Soon after American entry into the war officer training camps were set up on a large scale. They averaged only ninety days in length, but for the first time all the United States Army junior officers would go to war at least partially trained. By the end of the war 80,658 young men had graduated from these training courses.²⁷ However, training in the United States was only the beginning for most American soldiers.

One of the first tasks to which Pershing set his staff on their arrival in France was the establishment of a series of schools to train the American Expeditionary Force (A.E.F.). The infantry training consisted of instruction

²⁵Maurice Matloff, ed., American Military History, Army Historical Services (Washington, D.C.: Office of the Chief of Military History, 1969), pp. 377-378; Russell F. Weigley, The History of the United States Army (New York: MacMillan, 1967), pp. 374-375; Kriedberg and Henry, pp. 227-28, 241-80.

²⁶The "Plattsburg idea" was a series of summer camps which provided military training to potential officers. From a beginning of two camps and 222 students in 1913, the idea spread to include over thirteen camps and 12,000 young men by 1916 (see Kriedberg and Henry, p. 213; Weigley, pp. 342-43).

²⁷Weigley, p. 373; on the wartime officer training program see Kriedberg and Henry, pp. 281-287.

in trench warfare techniques under British and French instructors; rifle marksmanship; use of weapons like the automatic rifle, bayonet, and grenades; gas warfare; demolitions; and open warfare tactics. This was followed by a tour of duty of ten days to a month in some quiet sector of the front with the French or British.²⁸ Some units were unable to complete this training before entering combat with results that were uniformly unfortunate.

Pershing had his men learn the lessons of trench warfare from their British and French instructors, but he had his own ideas about tactics and rifle marksmanship. By 1917 the British and French had clearly separated trench to trench assaults from the offensive tactics of open warfare. Infantry Journal reported the dichotomy in May 1918. "In trench warfare combat begins with the assault. . . . In open warfare the attack is conducted in successive bounds until the assault begins."²⁹ The French and British, having made the distinction, concentrated training only on trench warfare.³⁰ Pershing was adamant that the Americans would be trained in open warfare techniques. He

²⁸A four week training schedule for U.S. infantry companies consisted of 12 hours of Close Order Drill; 12 hours of Intrenching; 36 hours of instruction in rifle marksmanship, hand and rifle grenades, Lewis guns, bayonets, and pistols; 16 hours of outposts, patrols, and advance guards; 8 hours of platoon deployments; 4 hours of gas defense; 2 hours of foot care; 12 hours of organizing and defending a company strong point; and 13 hours of the company and battalion in attack. (See "Four Week Training Program" in "General Principles Governing Training," U.S. Army in the World War, vol. 2: Policies [Washington, D. C.: Historical Division Department of the Army (HDDA), 1949], pp. 299-304; Matloff, pp. 381-382; Weigley, pp. 374-375; Harvey A. Deweerd, President Wilson Fights His War (New York: The MacMillan Co., 1968), p. 214.

²⁹"Combat," 14 I.J. (May 1918):801, 806. .

³⁰In a four week training program published by the British Expeditionary Force (BEF) in March, 1918 for the training of American units there was no time allotted for assault training. (See "Training of American Divisions," Plan from G.H.Q. B.E.F., 12 March 1918, in U.S. Army in The World War, vol. 3: Training [Washington, D.C.: HDDA, 1949], pp. 63-64).

knew his allies considered open warfare obsolete, but he remained convinced of the essentiality of such training. In his memoirs he wrote:

If the French doctrine had prevailed our instruction would have been limited to a brief period of training for trench fighting. A new army brought up on such principles would have been seriously handicapped without the protection of the trenches.³¹

It seemed to some Americans that their allies no longer had a stomach for offensive warfare. In a memorandum for Major General James W. McAndrew, chief of staff of the A.E.F., written in July 1918, Colonel H. B. Fiske, an assistant chief of staff, wrote:

The offensive spirit of the French and British has largely disappeared because of severe losses. . . . In many respects the tactics and techniques of our allies are not suited to American characteristics. The French do not like the rifle, do not know how to use it, and their infantry is consequently too dependent upon powerful artillery support. Their infantry lacks aggressiveness and discipline. The British infantry lacks initiative and resource. . . .³²

Such criticism was easy from an army which had scarcely been bloodied in the fighting. The enormous losses sustained by the French and British had certainly given their regimental officers some reticence about plunging boldly into the fray.³³

³¹Pershing, I:151-153.

³²Col. H. B. Fiske, "Memorandum for the Chief of Staff" (Major General James W. McAndrew) 4 July 1918, quoted in U. S. Army in the World War, vol. 3: Training (Washington, D. C.: HDSA, 1949), pp. 330-331.

³³A very perceptive description of the British Army of 1918 is given by Major General H. Essame who was a British junior officer during the war (see H. Essame, The Battle of Europe, 1918 [New York: Charles Scribners Sons, 1972], pp. 8-14). While this generalization may have been true of British and French soldiers, the same does not apply to Canadian, Australian, and New Zealand troops. The Australians, all volunteers, were almost universally acclaimed the finest infantry of the war, with the Canadians a close second. It is significant that the Australian and Canadian corps led the British attack at Amiens, which ruptured the German lines on 8 August 1918. See Essame, pp. 3, 104, 113; Baker-Carr, pp. 150-53, 314-16; Orgill, pp. 41-46; Firkins, pp. 114-15; Brigadier General Sir James Edmonds, official British Historian, quoted in *ibid.*, p. 158; John Terraine, The Western Front 1914-18, quoted in *ibid.*; Shelford Bidwell, Gunners at War (London: Arms and Armor, 1970), pp. 39-45;

Pershing understood his allies' feelings, but his responsibility was training the new American Army. He utilized his allies' expertise in trench warfare, but his emphasis, repeated again and again in orders and directions, was on training his infantrymen to become expert in the use of their rifles and to advance using cover. These tactics, he thought, would serve infantrymen well both in trench fighting and the open fighting that would follow.³⁴ In an open warfare attack he would not permit stereotyped solutions which were reminiscent of the ironclad order of the normal attack. He published an order in April 1918 expressly forbidding any standardized form of advance.³⁵

The American Infantrymen who trained in France learned two types of offensive tactics, one for use from trench to trench, the other for open warfare. They learned to follow closely behind the creeping barrage in a linear formation of three or more lines. The first two lines rushed forward to keep up with the barrage while the third entered the trenches and dugouts to clear out the remaining enemy resistance.³⁶ Following the barrage was far more difficult than it sounds. The idea was to stay within thirty to fifty meters of a wall of bursting shells which moved forward in jumps of fifty to one hundred yards every three or four minutes. It took discipline and determination to stay close to such a moving wall of death, especially with the knowledge that one round falling short of its projected target could obliterate a

Nicholson, pp. 314-15.

³⁴Pershing, I:11-12, 150-51, 181; Deweerd, p. 215.

³⁵"General Principles Governing Training," General Headquarters (GHQ) A.E.F., 9 April 1918, in U.S. Army in the World War, vol. 2: Policies (Washington, D.C.: HDDA, 1949), p. 297.

³⁶"Infantry in the Attack," 14 IJ (May 1918):808, 813-814.

a portion of the advancing infantry line.³⁷ The infantryman also learned to use the fire of one part of the line to aid the advance of another. The U.S. manuals of the day still contained the 1911 method of infantry assault which initially formed the basis of open warfare assault training.³⁸

Pershing was sure German lines would be ruptured and open warfare returned. Commenting on the success of the German attacks in early 1918 (which broke the British lines), Pershing noted that they were characterized by the "intelligent initiative of the junior officers and superiority of fire." He continued to say that, "Americans have inherent qualities superior to the Germans in both respects," and admonished line officers to "perfect the instruction of the soldier in the use of his rifle," so as to insure the Americans would capitalize on these strengths when they broke the German lines.³⁹

The doughboys responded readily to the training, although one staff officer, noting the tendency of some units to adopt too closely the tactics of their British and French instructors, worried that this would breed a defeatist attitude in A.E.F. soldiers. He strongly recommended A.E.F. training be freed from allied supervision. The recommendation was not acted on nor did the attitudes he worried about rub off to any significant extent.⁴⁰

³⁷For a description, see Bidwell, pp. 35-36.

³⁸J. A. Moss, Company Training (Menasha, Wis.: Banta, 1917), p. 30; Complete U.S. Infantry Guide for Officers and Non Commissioned Officers. Reprinted from Government Publications (Philadelphia and London: J. B. Lippincott, 1917), pp. 377-378, 398; U. S. Department of War, Manual for Noncommissioned Officers and Privates of Infantry of the U.S. Army (Washington, D.C.: GPO, 1918), pp. 148, 150-152.

³⁹John J. Pershing, "General Tactical Instructions," 11 July 1918, in U.S. Army in the World War, vol. 2: Policies (Washington, D. C.: HDDA, 1949), pp. 330-331.

⁴⁰Memorandum, Col. Fiske to Maj. Gen. McAndrew, 4 July 1918, in U.S. Army in the World War, vol. 3: Training (Washington, D. C.: HDDA, 1949),

In fact, Americans complained most vociferously when they felt they were not getting enough offensive or tactical training. Adherence to the tactical methods of these allies would not dull American fighting spirit, but their use would add significantly to the casualties A.E.F. units sustained as they were initiated into combat. The aggressiveness of American soldiers combined with archaic tactical methods added significantly to the carnage of the battlefields. Captain Howard Clark, a company commander in the 4th Division, who had some of his pre-combat training with the British, typified such feelings:

During those eighteen days, with British equipment and under British training we learned but little that was to stand us in good stead later. The hours spent learning the nomenclature of the Lee-Enfield (I can hear him yet, that big raw-boned Irish sergeant--"Th' front soight 'as thr-ree par-rts, the bed, blade and bead") might well have been devoted to practice in open warfare formations and in gaining some useful knowledge of the technique of outguessing the murderous machinegun.⁴¹

The training cycles which Pershing established would continue throughout the war as more and more American units arrived in France, but for the units already trained, 1918 brought the first offensive combat. At first Americans participated in small trench raids, assaults from trench to trench the objectives of which were to capture prisoners and secure intelligence. When the mission was accomplished the soldiers vacated the enemy trench and returned to their own lines.

A soldier destined to win fame in two world wars received his baptism

pp. 330-331.

⁴¹Cpt. Howard Clark, "Operations of the 3rd Battalion, 59th Infantry (4th Division) in the Aisne-Marne Offensive 17-21 July 1918" (Monograph, The Infantry School, Ft. Benning, Ga., 1932), p. 6. One should realize that this feeling did not encompass those units who operated with Australian and Canadian units. Monash, although sometimes critical of the rash exuberance of the Americans, found them good soldiers: high praise from one of the war's finest commanders (see Monash, pp. 228-35; Firkins, pp. 145-55). Americans worked well with the Commonwealth soldiers (see Firkins, pp. 133-35; Bidwell, pp. 39-41; Orgill, pp. 41-46).

of fire during one such raid in March 1918. Colonel Douglas MacArthur, then Chief of Staff of the 42nd Division, remembered going over the top on his first assault and hearing the battalion commander of the unit he accompanied order, "Keep alignment, Guide is Right."⁴² The Stars and Stripes, the American serviceman's newspaper printed in France, reported on the raid and commented that the Americans and French were almost jogging as they advanced in order behind the barrage. The article noted the colonel who accompanied the raid (MacArthur) stated his men crossed three hundred yards of no-mans land in eighteen minutes which means the initial movement quickly slowed to conform to the barrage.⁴³ No mention was made of the use of rushes, but the raid proved successful. Such raids were typical of early A.E.F. involvement in offensive actions.

The A.E.F. launched its first brigade sized attack of the war with the objective of holding the ground that was taken on 28 May. In this trench to trench assault troops of the 1st Division employed the strictly controlled tactics taught by their allies. They moved out behind a rolling barrage.⁴⁴ Lieutenant Colonel W. S. Grant, of the operations division of Pershing's staff, observed the attack. He reported to Colonel Fox Conner, the operations officer, that he had seen:

. . . one company distinctly as it crossed a long stretch of open ground. It moved in two lines of two waves each and went forward

⁴²"Guide is Right" was a command used to precisely align a rank of men on the man at the extreme right. Douglas MacArthur, Reminiscences (New York: McGraw-Hill, 1964), pp. 55-56.

⁴³Stars and Stripes, 15 March 1918, p. 1.

⁴⁴Ibid., 31 May 1918, p. 1.

as if it were at inspection--really splendid--lines straight,
etc.⁴⁵

The trench to trench tactics proved successful, and Cantigny became the first American offensive victory of the war.

A week later a different tactical situation faced the 2nd Division. Hurriedly dispatched to stop a part of Ludendorf's third offensive, the dough-boys and Marines (the 2nd Division had a Brigade of Marines) had barely time to scrape prone shelters in the ground when the Germans arrived. Pershing's insistence on marksmanship paid off as these soldiers stopped the Germans with deadlyfire. On 6 June the Marine Brigade went over to the attack against the Germans in Belleau Wood. Here there were no trenches, but John Thomason, a Marine lieutenant who served as a company executive officer in the action, remembered the Marines attempted to employ a trench warfare formation in the attack. The platoons were formed in four waves, an attack formation, taught by the French, proven in trench warfare. "It was a beautiful deployment all lines dressed and guiding true."⁴⁶ The opposing Germans of the IVth Reserve Corps left an intelligence report describing the Marines' attack formations as three or four skirmish lines with distances of thirty to fifty paces between lines.⁴⁷ The Marine casualties were terrible. Thomason recalled:

⁴⁵Report W. S. Grant to Fox Conner, 29 May 1918, U.S. Army in the World War, vol. 4: Operations (Washington, D.C.: HDDA, 1949), p. 321; LTC W. S. Grant (later a Major General in World War II) received high praise from co-worker George C. Marshall who called him "Unusually capable with a high sense of responsibility." (See George C. Marshall, Memoirs of My Service in the World War [Boston: Houghton-Mifflin, 1976], pp. 126, 129).

⁴⁶John W. Thomason, Fix Bayonets (New York: Charles Scribner's Sons, 1970), pp. 8, 10.

⁴⁷"Intelligence Report," IV Reserve Corps, 17 June 1918 in U. S. Army in the World War, vol. 4: Operations (Washington, D.C.: HDDA, 1949), p. 607.

The Marines never used it [the formation] again. It was a formation unsuited for open warfare and incredibly vulnerable. It didn't take long to learn better but there was a price to pay for learning.⁴⁸

The 3d Battalion, 59th Infantry (4th Division), attacked the Bois de l'Orme in July and they too attempted to use a trench warfare formation in an open warfare assault. Howard Clark recalled his troops were "in an entirely too close formation and had a tendency, as do all inexperienced troops under fire, to bunch together."⁴⁹ He noted that officers and NCO's straightened out the lines and took the wood with heavy casualties. Clark, who had trained with the British, commented that, since assault tactics had formed such a small part of his unit's training, "the simple artifice of slipping around under cover to the flank of a hostile machine gun was unknown to them." They had to learn in the school of combat.⁵⁰

The losses sustained by adherence to trench warfare formations when operating in the open were staggering. Brigadier General Beaumont Buck, a brigade commander in the 1st Division, lost 50% of his officers and 40% of his men in the Soisson's offensive while gaining eight kilometers.⁵¹ The 1st U.S. corps of which Buck's Brigade was a part lost 15,000 men.⁵²

The Stars and Stripes reported a typical trench to trench assault behind a rolling barrage later in July in which a ". . . platoon went over the

⁴⁸Thomason, pp. 8, 10.

⁴⁹Howard Clark, p. 9.

⁵⁰Ibid., p. 10; Edward L. Coffman, The War to End All Wars (New York: Oxford, 1918), pp. 251, 255.

⁵¹Beaumont B. Buck, Memories of Peace and War (San Antonio, Naylor, 1935), p. 210.

⁵²Liddell-Hart, Reputations, pp. 274-275.

top [in] as pretty a line as you ever saw." An NCO who participated reported the platoon sergeant was swearing like a demon at his men, "Right dress, there, you dirty lousy doughboys, right dress, or I'll drill you damned feet off when I get you back to camp, right dress."⁵³ The same issue, however, noted some units were operating in areas where there were no trenches to "go over the top of."⁵⁴

Now, slowly as they gained experience in combat, Americans began to use the tactics of open warfare. Captain William R. Freehoff, commander of Company B, 38th Infantry, 3d Division, advanced his unit by "infiltration" on 22-23 July 1918. He described the advance as "small groups, moving up in dead space and taking advantage of all natural cover." When the enemy made a stand one platoon enveloped the German position.⁵⁵ Douglas MacArthur remembered his men reverting to tactics he had seen in the Indian wars, "crawling forward in groups of two and three."⁵⁶ Captains Jared Wood and John W. Bulger, commanders, respectively, of Company B and Company D, 47th Infantry, 3rd Division, both reported employing fire and maneuver to reduce German positions on 30 July 1918.⁵⁷ These tactics were not, however, strictly copied

⁵³"Right Dress" or "Dress Right" equaled "Guide is Right." Stars and Stripes, 26 July 1918, p. 3.

⁵⁴Ibid., p. 8.

⁵⁵William B. Freehoff, "Operations of Company B, 38th Infantry, Along the Marne River, 22-23 July 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1926-27), p. 11.

⁵⁶MacArthur, p. 59.

⁵⁷Cpt. Jared Wood, "Operations Co. B, 47th Infantry (4th Division), 27-31 July 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1927-28), p. 8; Cpt. John W. Bulger, "D Company, 47th Infantry (4th Division) at Sergy in the Aisne-Marne Offensive" (Monograph, The Infantry School, Fort Benning, Ga., 1927-28), p. 7; Infantry Journal, Infantry in Battle (Washington, D.C.: Infantry Journal, 1934), pp. 297-299.

from the linear formations of the drill regulations. In the confusion of the battlefield lines often disappeared and were replaced by groups of infantrymen advancing on their own or with the support of another group who provided suppressive fire against enemy positions. Infantrymen soon found that advancing in such groups was more adaptable and more effective than attempting to advance while maintaining a linear formation.

The Americans were evolving assault tactics adapted to the conditions, but, despite admonitions in training, many new units had to re-learn the lessons of their predecessors on the harsh stage of combat. On 29 July the 109th and 110th Infantry, 28th Division, advanced without artillery fire, but in "faultless ranks" across an open field towards German positions in a woodline. Five assaults were repulsed by the Germans until the position was finally taken with artillery support on the next day.⁵⁸ On 9 August Stars and Stripes reported a line of doughboys advance, "in skirmish formation as pretty and as perfect as ever they knew in pleasant training fields." The article continued ominously, "--nor faltering in the least when any of their members fell which many did."⁵⁹

A German officer, captured in August, stated his troops criticized the Americans for "attacking in close ranks and not deploying sufficiently" as well as "for marching at a slow pace without enough regard for bullets when they ought to advance by bounds and on the run."⁶⁰ United States' soldiers were employing the ordered trench warfare formations taught by their allied instructors. These formations were easier to control for the inexperienced leaders, and offered the false security of close proximity to

⁵⁸William Burkhardt, Hobnails and Helmets (Chambersburg, Pa.: Kaye, Inc., 1967), p. 391.

⁵⁹Stars and Stripes, 9 August 1918, p. 2.

⁶⁰"A German Opinion," 15 IJ (November, 1918):439.

their fellows for the green soldiers. It took the crucible of combat, and the first sight of the carnage of battle, to make them understand that such formations were deathtraps. With this lesson grimly implanted, units invariably reverted to the comparatively disordered, harder to learn, open warfare methods which provided the best chance for survival in assault.

Pershing and his Headquarters did their utmost to insure subordinate commanders understood the necessity of employing open warfare techniques. A memorandum to corps and division commanders directed that "strong emphasis must be placed on the use of all available cover and upon the great value of flanking and encircling movements."⁶¹ The memo ordered formation of thin skirmish lines of scouts (with ten to fifty pace intervals between men) to find the enemy while the bulk of the forces followed in thin lines or small columns a good distance to the rear ready to reinforce the scouts or maneuver to the flanks. No set formations for attack were to be used but

. . . each commander should make the best possible use of the particular ground and of the various weapons at his disposal. Rushes of individuals or small units must be covered by fire; intelligent use of fire to cover movement enables ground to be gained at relatively small cost.⁶²

The headquarters of the A.E.F. was espousing nothing less than the employment of fire and maneuver because the officers of the headquarters had come to believe that the technique saved men's lives. In the entire memorandum there was just one sentence on the set piece trench to trench attack. It stated such attacks ". . . will occasionally be practiced."⁶³

⁶¹"Memorandum for Corps and Division Commanders G.H.Q., A.E.F., 5 August 1918," in U.S. Army in the World War, vol. 2: Policies (Washington, D.C.: HDSA, 1949), pp. 561-63.

⁶²*Ibid.*

⁶³*Ibid.*

In his personal "Combat Instructions to the A.E.F." Pershing stressed the differences between trench to trench and open warfare and the great cost of employing trench warfare in the open. Trench warfare was for him the exemplification of ordered controlled assault. It embodied uniform formations, set distances, and little initiative; whereas open warfare was marked by irregular formations, little regulation of time and space, and, "the greatest possible use of initiative by all troops engaged. . . ." He stated that the infantry commander must use his organic weapons to place fire on enemy positions while a portion of the force closed with the enemy from the flank under the protection of this fire.⁶⁴ The American Commander was personally advocating the use of fire and maneuver as the best method of assault in open country.

When the American 1st Army launched its offensive to seize the Saint-Mihiel salient, it briefly reverted to the methods of trench warfare for the trench to trench assault. The assault, behind a rolling barrage and supported by 264 tanks, began as a series of lines.⁶⁵ Captain Oliver Allen of the 18th Infantry, 1st Division, remembered that each line was in two waves. The firing line had one wave of skirmishers followed at fifty yards by a second in squad columns. When the soldiers in the formation encountered resistance, however, they took cover, began to return the fire, and moved forward as individuals when they could advance. The advance continued in this manner until the German trenches were reached.⁶⁶ The veterans of the 1st

⁶⁴ John J. Pershing, "Combat Instructions to the A.E.F., 5 Sept. 1918," in Pershing, II: 358.

⁶⁵ A line may have been composed of a number of waves, i.e. a company size firing line might have two waves, each of a platoon in linear (side by side) or column (one behind the other) formation.

⁶⁶ Cpt. Oliver Allen, "The 18th Infantry in the Saint Mihiel Attack, 12-16 September 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1922-1923), pp. 11, 15; Stars and Stripes, 20 September 1918, p. 2.

Division lost no time in employing the methods that saved lives. In four days the salient was taken, and the Americans immediately began preparations for their next offensive. On 26 September after a three hour bombardment by 2,700 guns the American 1st and French 4th Armies stepped out of their trenches, following a rolling barrage, and began the last Franco-American offensive of the war.

The French, who had been skeptical of Pershing's emphasis on open warfare techniques and rifle marksmanship, became convinced that the Americans were right.⁶⁷ French Major G. E. Bertand wrote in Infantry Journal that the infantry had regained the ability to maneuver and "all maneuver depends on a combination of fire and movement." The infantry operated in conjunction with other arms: artillery, tanks, aviation, and gas, he continued, but the basic principle remained, "One unit of infantry advances helped by the fire of a neighboring unit."⁶⁸ In effect, the French had adopted the tactics of fire and maneuver.

As the American divisions advanced the inexperience and lack of training of some personnel, who had been too quickly committed to combat, added unnecessary casualties to the attack. In the veteran 3rd Division replacements attempted to assault machineguns frontally with no artillery support. A bloody repulse ensued which led Captain H. D. Ayres, a participant, to conclude that envelopment and artillery support were essential to defeating machineguns.⁶⁹ Captain G. O. Clark, commander of Company A,

⁶⁷Pershing, I:152-153.

⁶⁸Maj. G. E. Bertand, 6th Chasseurs Alpines, "Tactical Qualities of the Infantry," 14 IJ (October 1918):276.

⁶⁹Cpt. H. D. Ayres, "Operations of the 3rd Battalion, 7th Infantry (3rd Division), 29 September - 1 October 1918" (Monograph, Fort Benning, Ga., 1932-1933), pp. 16, 30.

30th Infantry, employed a trench warfare type linear assault on 10 October and was decimated with heavy losses. By the time he reverted to fire and maneuver, which he had been taught, he had too few men left to take his objective. He learned "a frontal attack over open ground without powerful artillery support or flanking fire is about sure to fail."⁷⁰ The newly arrived American replacements were learning the same harsh lessons as their predecessors. The conclusions they drew from these lessons were remarkably similar. Whether reverting to the more difficult techniques they had learned in training, but chose to ignore, or discovering for themselves techniques dictated by common sense, they all tended towards the solution of fire and maneuver: the method which successfully accomplished the mission, but which cost the least lives.

In most units, and almost invariably in veteran formations, Pershing's remonstrances to use open warfare techniques with flexible formations were being adhered to. Major Ralph Dusenberry, 2nd Battalion, 127th Infantry, 32nd Division, described the assault formation of his battalion on 4 October 1918 as a single line of skirmishers followed by small columns.⁷¹ Major Ben-Hur Chastaine (then a captain) discussed using fire and maneuver while commander of Company A, 142nd Infantry, 36th Division. He set up fire support for another captain whose men maneuvered around the left flank of an enemy position and hurled grenades into it while Chastaine's men poured automatic rifle

⁷⁰ Captain G. O. Clark, "Operation of Company A, 30th Infantry (3rd Division), in the Mense-Argonne, 10-15 October 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1932-33), pp. 3-6.

⁷¹ Maj. Ralph W. Dusenberry, "Capture of the Bois De La Moraine and Bois De La Chene Sec by the 2nd Battalion, 127th Infantry, 32nd Division, 4-15 October 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1927-28), p. 18.

fire into the position.⁷² Major C. W. Dyer, 1st Battalion, 117th Infantry, mentioned using "infiltration tactics" to aid his advance with the 4th British Army. These tactics consisted of advancing in small groups while the rest of the unit laid down a covering fire.⁷³ Captain Floyd Bain, 1st Battalion, 326th Infantry, 82nd Division, described his assault units moving forward by rushes or crawling on their bellies to take advantage of cover.⁷⁴ Infantry Journal, in an article on operations in the Argonne forest, reported, "The boys are sacrificing speed to conservation of lives."⁷⁵ The method the men used was fire and maneuver.⁷⁶

When the war ended in November the tactics learned on the battlefield were not forgotten. Even in the turmoil of demobilization, the Army leadership quickly put its General Staff to work on a new set of Drill Regulations. In 1919 these regulations were published, superseding the regulations of 1911. The official method of assault became fire and maneuver. "Fire must cover all movement in the presence of the enemy," the regulations stated. Movement

⁷²Major Ben Hur Chastaine, "Operations of Company A, 142nd Infantry (36th Division) in the Champagne Offensive, 7-12 October 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1931-32), p. 14.

⁷³Major C. W. Dyer, "Operations of the 1st Battalion, 117th Infantry, with the British 4th Army Before Busigny, 9 October 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1926-27), p. 10.

⁷⁴Captain Floyd H. Bain, "1st Battalion, 326th Infantry, 82nd Division, Meuse-Argonne Operations," October 1 - November 1, 1918" (Monograph, The Infantry School, Fort Benning, Ga., 1930-31), p. 4.

⁷⁵"German Tactics," 15 IJ (November 1918):444-445.

⁷⁶Ibid., Burkhardt, pp. 395-396.

was to be used to get to the flank or rear of the enemy and gain a position from which to destroy him.⁷⁷ The regulations converted the tactics of the battlefield into doctrine. The adoption of fire and maneuver as the official assault doctrine marked a most important step in the evolution of American infantry tactics. This technique discarded the idea of preserving a line which had previously been of primary concern during the attack. By sanctioning an assault based on groups, not lines of infantry, infantry leaders were establishing an effective technique which could be used in a large range of varying situations. The technique was a major step in the advancement of infantry assault which possessed sufficient adaptability and produced enough successes in application to remain the official concept to the present day.

An officer writing in the American Army and Navy Journal stated the new tactics had evolved in response to the demands of the battlefield.⁷⁸ In fact those tactics had evolved for a number of reasons. The pre-war Army had developed a climate which made tactical progress possible. When the war came, the professional soldiers of that Army, many who quickly attained high rank, insured the junior officers and men were trained and then closely scrutinized the assault tactics to determine which methods produced results with the least cost. During the war, a mass army of American soldiers saw combat. Like their fathers and grandfathers in the Civil War they quickly gravitated towards the tactics that accomplished the mission with the least loss of

⁷⁷U.S. Department of War, Infantry Drill Regulations (Washington, D.C.: G.P.O., 1919), pp. 97, 104-108, 117-121.

⁷⁸Major W. H. Wilbur, "Modern American Infantry: Its Methods and Its Problems," The American Army and Navy Journal, 18 February 1922, p. 581.

life, but unlike those forebears, they had the fortunate experience of hearing those tactics espoused as accepted, even recommended, doctrine. It was, in the final analysis, the developing professionalism of the leadership of the American Army which combined with the harsh lessons of the realities of war to produce the quickest and most appropriate step in the evolution of infantry assault doctrine in the history of the United States Army.

Infantry assault tactics had seen many changes since those initial tentative steps of a few ragged Continentals in the snow at Valley Forge. The United States Army had first adopted foreign systems and made the necessary improvements to use those systems effectively. Then slowly, as advances in technology signaled the need for change and as the army developed its professionalism, Americans initiated and refined their own system of tactics. As increasing numbers of officers were educated in army post-graduate schools and cultivated an interest in exploring professional subjects, as the army developed institutions which provided forums to air the ideas produced by the increased interest and created mechanisms to act on those ideas, and as the realities of war made themselves felt, the evolution of the infantry tactics proceeded ever more quickly until it arrived at a system which was effective, adaptable, and fit to the character of the American soldier.

The methods by which these tactics evolved provide insights into the development of the army. First foreign systems were adopted in toto for use by the infantry. Then adaptations of those systems were translated or pirated by individuals seeking financial gain, and rubber stamped by boards which did little or nothing to change the propositions. When the Civil War exposed the inadequacy of the last translated texts, very few officers proposed solutions to the problem and only one, Emory Upton, had the originality to propose, and the power to insure the adoption of, a unique system which

initiated a solution. The boards which approved this solution insured it was thoroughly tested, if in the end they adopted it with little change. They were, however, the last boards to adopt the tactical system of a single man.

When the next revision came, the involvement of growing numbers of officers in tactical revision gave the board new and more important duties. Instead of simply approving a single solution, boards became responsible for synthesizing an ever-increasing number of new tactical ideas and producing a system which amalgamated the best of them. Since the systems produced by these boards were published by the Army, the motivation for the men who proposed and tested the tactics changed from financial gain to professional enhancement.

For the most part two types of boards had ruled on tactical development: one a prestigious group of senior officers assembled to lend authority to the acceptance of new tactics; the other a collection of experts often chosen because of their familiarity with the tactical systems of the day. This second type of board was composed of drillmasters, often instructors at West Point, when tactics and drill were synonymous and, later, tacticians, often affiliated with the schools at Leavenworth or the General Staff, after parade-ground and battlefield had been doctrinally separated. Whatever their backgrounds these experts provided the official mechanism for tactical development. It is significant that real tactical progress was made only after tacticians took over the boards.

The development of new institutions, like the officer school system and the General Staff, and the emergence of a number of military journals at the end of the nineteenth and beginning of the twentieth century facilitated faster tactical development. The new institutions both educated officers and provided internal mechanisms to ease introduction of new ideas and changes of

doctrine. The journals provided a forum for officers to discuss new concepts, comment on present practices, and expose the weaknesses of inadequate systems. Journals and Institutions stimulated officer thinking and kept soldiers abreast of the state of the art.

By World War I the institutions and the professionalism of the United States Army were developed to the point that infantrymen were able to quickly assess the lessons of the battlefield, force an evolutionary step in tactics during the fighting, and see that step cemented into doctrine soon after the war ended. The system to change infantry tactical doctrine had finally become responsive to the needs of its most important user--the infantry soldier.

BIBLIOGRAPHY

I. Primary Sources

A. Newspapers and Journals

Army and Navy Chronicle, 1835-1844.

Army and Navy Journal, 1863-1914, 1919-1922.

Infantry Journal, 1904-1919.

Journal of the Military Service Institution, 1900-1910, 1911-1912, 1915.

Military and Naval Magazine, 1833-1836.

Stars and Stripes, 8 February 1918-13 June 1919.

United Service Magazine, 1879-1896.

United States Military Magazine, 1839-1842.

B. Unpublished Sources

The Infantry School Library. Fort Benning, Ga.

These monographs are all the personal experiences of men who were infantry officers in World War I.

Alden, Maj. C. T. "The Engagement at Saphia's Cota Number 1 on the Island of Jolo, Philippine Islands in 1913," Monograph, The Infantry School (TIS), Fort Benning, (FB), 1928-29.

Allen, Cpt. Oliver. "The 18th Infantry (Inf.) in the Saint Mihiel Attack," Monograph, TIS, FB, 1922-23.

Ayres, Cpt. H. D. "Operations (Opns) of 3rd Battalion (Bn), 7th Inf. (3rd Division [Div.]) 29 Sept.-1 Oct. 1918," Monograph, TIS, FB, 1932-33.

Bagnall, Cpt. H. D. "Opns of the 108th Inf (27th Div. U.S.) in the British Offensive towards Maubeuge Sept. 27-30, 1918," Monograph, TIS, FB, 1930-31.

Bain, Cpt. Floyd H. 1st Bn., 326th Inf., 82d Div. in the Meuse-Argonne Opn., Oct. 8-Nov. 1, 1918," Monograph, TIS, FB, 1930-31.

Bulger, John W. D Company (Co.), 47th Inf. (4th Div.) at Sergy in the Ainse-Marne Offensive," Monograph, TIS, FB, 1927-28.

Chastaine, Maj. Ben-Hur. "Opns of Co. A, 142 nd Inf. (36th Div.) in the Champagne Offensive, 7-12 Oct. 1918," Monograph, TIS, FB, 1931-32.

Clark, Cpt. George O. Opns of Co. A, 30th Inf. (3d Div.) in the Meuse-Argonne Offensive, Oct. 10-15, 1918," Monograph, TIS, FB, 1932-33.

Clark, Cpt. Howard. "Opns of the 3d Bn, 59th Inf. (4th Div.) in the Ainse-Marne Offensive, 17-21 July 1918," Monograph, TIS, FB, 1931-32.

Dusenberry, Maj. Ralph W. "Capture of the Bois De La Moraine and the Bois De Chene Sec by 2d Bn, 127th Inf., 32d Div., Oct. 4-15, 1918," Monograph, TIS, FB, 1927-28.

Dyer, Maj. C. W. "The Opns of the 1st Bn, 117th Inf., with the British 4th Army Before Busigny, 9 Oct. 1915," Monograph, TIS, FB, 1926-27.

Freehoff, Cpt. William R. "Opns of Co. B, 38th Inf., Along the Marne River, 22-23 July 1918," Monograph, TIS, FB, 1926-27.

Wood, Cpt. Jared. "Opns of Co. B, 47th Inf. (4th Div.), 27-31 July 1918," Monograph, TIS, FB, 1927-28.

C. Published Sources

American State Papers, Military Affairs, 7 volumes. Washington, D.C.: Gales and Seaton, 1832-61.

Arnold, Thomas Jackson. Early Life and Letters of General Thomas J. Jackson. New York: Fleming H. Revell, 1916.

Baker-Carr, Charles D. From Chauffeur to Brigadier. London: Ernest Benn, 1930.

Beatty, John. The Citizen Soldier or Memoirs of a Volunteer. Cincinnati: Wilstach, Baldwin, 1879.

Bigelow, John. Reminiscences of The Santiago Campaign. New York: Harper and Brothers, 1899.

- Brooks, Elbridge S. The Story of the American Soldier. Boston D. Lothrop Co., 1889.
- Buck, Beaumont B. Memoirs of War and Peace. San Antonio: Naylor, 1935.
- Bullard, Robert L. Personalities and Reminiscences of the War. Garden City, New York: Doubleday and Co., 1925.
- Casey, Silas. Infantry Tactics. 3 vols. New York: D. Van Nostrand, 1862.
- _____. Infantry Tactics. vol. 3. Columbia, S.C.: Evans and Cogswell, 1864.
- Complete U.S. Infantry Guide for Officers and Non Commissioned Officers
Reprinted from Government Publications. Philadelphia: J. B. Lippincott, 1917.
- Duane, William. A Handbook for Infantry. 2d ed. Philadelphia, 1812.
- Dupicq, Ardant. Battle Studies. Translated by J. N. Greeley and R. C. Cotton. New York: MacMillan Co., 1921.
- Durham, N. C. Duke University. Fletcher H. Archer Papers.
- Durham, N. C. Duke University. James F. Hamtramck Papers.
- Ewald, Johann. Diary of The American War. Translated by Joseph P. Tustin. New Haven: Yale University Press, 1979.
- Funston, Frederick. Memories of Two Wars. New York: Charles Scribner's Sons, 1914.
- Grant, Ulysses S. Personal Memoirs of U. S. Grant. Edited by E. B. Long. Cleveland: Word, 1952.
- Griepenkerl, General Otto A. Letters on Applied Tactics. Translated by Major C. H. Barth. London: H. Rees, 1904.
- Hanna, Mathew Elting. Tactical Principles and Problems. Menasha, Wisconsin: Banta, 1910.
- Hardee, William Joseph. Rifle and Infantry Tactics. 2 vols. 2d ed. Mobile, Ala.: S. H. Goetzl, 1861.
- Hitchcock, Ethan Allen. Fifty Years in Camp and Field. Edited by W. A. Croffut. New York: G. P. Putnam's Sons, 1909.
- Kenley, John. Memories of a Maryland Volunteer. Philadelphia: J. B. Lippincott & Co., 1873.
- Knopf, Richard C. Anthony Wayne, A Name in Arms: The Wayne-Knox-Pickering-McHenry Correspondence. Pittsburgh: University of Pittsburgh Press, 1960.
- MacArthur, General of the Army Douglas. Reminiscences. New York: McGraw-

Hill, 1964.

McClellan, George B. The Mexican War Diaries. Edited by William Starr Myers. Princeton: Princeton University Press, 1917.

Mahan, Denis Hart. Complete Treatise on Field Fortifications with the General Outlines of the Principles Regulating the Arrangement, the Attack, and the Defense of Permanent Works. New York: Wiley & Long, 1836.

_____. An Elementary Treatise on Advance Guard, Outpost, and Detachment Service of Troops and the Manner of Posting and Handling Them in the Presence of the Enemy. New Orleans: Bloomfield and Steel, 1861.

Marshall, George C. Memoirs of My Service in the World War 1917-1918. Boston: Houghton-Mifflin Co., 1916.

Maude, Frederick N. Letters on Tactics and Organization. Leavenworth, Kansas: George A. Spooner, 1891.

_____. Cavalry vs. Infantry. International Military Series. Edited by Arthur L. Wagner. Kansas City: Hudson Kimberly, 1896.

Merritt, Wesley. The Armies of Today. New York: Harper and Brothers, 1892.

Michie, Peter S. The Life and Letters of Emory Upton. New York: D. Appleton, 1885.

Monash, General Sir John. The Australian Victories in France. New York: E. P. Dutton, 1920.

Moss, James. Company Training. Menasha, Wisc.: Banta, 1917.

Oswandel, J. J. Notes on the Mexican War 1816-47-48. Philadelphia: 1885.

Pershing, John J. My Experiences in the World War. 2 vols. New York: Frederick A. Stokes, 1931.

Robertson, John. Reminiscences of a Campaign in Mexico. Nashville: John York & Co., 1849.

Schofield, John M. Forty-Six Years in the Army. New York: The Century Co., 1897.

Scott, Winfield. Infantry Tactics or Rules for the Exercises and Maneuvers of United States Infantry. 3 vols. New York: Harper, 1861.

_____. Memoirs of Lieut. Gen. Scott LLD Written by Himself. 3 vols. New York: Sheldon, 1864.

Senior Officers School. Notes for Commanding Officers. Aldershot: Gale and Polden, 1917.

Shalk, Emil. Summary of the Art of War. Philadelphia: J. B. Lippincott, 1862.

Sheridan, Phillip Henry. Personal Memoirs of Phillip Henry Sheridan. 2 vols. 2d ed. New York: D. Appleton, 1931.

Steuben, Baron Friedrich Wilhelm Ludorf Gerhard Augustin von. Regulations for the Order and Discipline of the Troops of the United States. Ohio: Ohio State Museum, 1956 (1778-1779).

Thomason, John W. Fix Bayonets. New York: Scribners, 1928.

Thorpe, T. B. Our Army at Monterrey. Philadelphia: Carey and Hart, 1847.

Upton, Emory. A New System of Infantry Tactics, Double and Single Rank. New York: D. Appleton, 1867.

_____. Infantry Tactics Double and Single Rank. New York: D. Appleton, 1874.

_____. The Armies of Asia and Europe. New York: D. Appleton, 1878.

_____. Military Policy of the United States. Washington, D.C.: Government Printing Office (GPO), 1904.

U. S. Army School of the Line, Department of Military Art. Map Problems, 1912-13, 1914-15. Fort Leavenworth, Kansas: Army Service Schools, 1914.

U. S. Congress. House. 16th Cong., 1st Sess., 1820. Journal, 12 May 1820.

U. S. Congress. Senate. Report of the Commission Appointed by the President to Investigate the Conduct of the War Department in the War with Spain. S. Doc. 221, 56th Cong., 1st Sess. 1900.

U. S. Department of the Army. U. S. Army in the World War. 17 vols. Washington, D. C.: Historical Division Dept. of the Army, 1948.

_____. FM 7-10 Rifle Company, Platoons, and Squads. Washington, D.C.: Dept. of the Army, 1970.

_____. FM 7-7 The Mechanized Platoon and Squad. Washington, D.C.: Dept. of the Army, 1977.

_____. FM 7-11B1 Soldier's Manual 11B10. Fort Benning, Ga.: The Infantry School, 1978.

U. S. Department of Commerce. Historical Statistics of the United States. Washington, D.C.: GPO, 1960.

U. S. Department of War. The War of the Rebellion. 70 vols. Washington, D.C.: GPO, 1880-1901.

_____. Office of the Adjutant General. General Orders. Washington, D.C.: GPO, 1862-1919.

- U.S. Department of War. Office of the Adjutant General. Special Orders. Washington, D.C.: GPO, 1862-1919.
- _____. Annual Report of the Secretary of War. Washington, D.C.: GPO, 1862-1919.
- _____. Office of the Adjutant General. Infantry Drill Regulations. New York: Army and Navy Journal Inc., 1891.
- _____. Infantry Drill Regulations. Washington, D.C.: GPO, 1895.
- _____. Infantry Drill Regulations, 1904. New York: D. Appleton and Co., 1904.
- _____. Infantry Drill Regulations United States Army, 1911. Washington, D.C.: GPO, 1911.
- _____. Infantry Drill Regulations, 1919. Washington, D.C.: GPO, 1919.
- _____. Army War College. Manual for Commanders of Infantry Platoons. Washington, D.C.: GPO, 1917.
- _____. Manual for Non-Commissioned Officers and Privates of Infantry of The Army of the United States. Washington, D.C.: GPO, 1918.
- _____. Report of the Commandant United States Infantry and Cavalry School, U. S. Signal School and Army Staff College. Fort Leavenworth, Staff College Press, 1907.
- _____. Studies in Minor Tactics. Fort Leavenworth, Kansas: Army School of the Line, Department of Military Art, 1908.
- _____. A Survey of German Tactics, 1918. Washington, D.C.: Historical Subsection, General Staff, 1918.
- Van Dystine, Wrence. Diary of An Enlisted Man. New Haven: Tuttle, Morehouse, and Taylor, 1910.
- Wagner, Arthur L. Organization and Tactics. New York: B. Westerman, 1895.
- _____. Report of the Santiago Campaign, 1898. Kansas City, Mo.: F. Hudson, 1908.
- War Office, General Staff. Infantry Training, 1914. London: His Majesty's Stationery Office, 1914.
- Wheeler, Walter. The Infantry Battalion in War. Washington, D.C.: The Infantry Journal Inc., 1936.
- Wilkeson, Frank. Recollections of an Private Soldier in the Army of the Potomac. New York: G. P. Putnam's Sons, 1887.
- Wisser, John P. Practical Field Exercises in Tactics and Strategy. Kansas City, Mo.: Hudson-Kimberly, 1903.

II. Secondary Sources

- Ambrose, Stephen E. Upton and the Army. Baton Rouge: Louisiana State University Press, 1964.
- Bauer, K. Jack. The Mexican War 1846-1848. New York: MacMillan Publishing Co., Inc., 1974.
- Bidwell, Shelford. Gunners at War. London: Arms and Armour Press, 1970.
- Bigelow, Donald N. William Conant Church and The Army and Navy Journal. New York: Columbia, 1952.
- Bolton, Charles K. The Private Soldier Under Washington. London: George Newnes, 1902.
- Brodie, Bernard and Fawn. From Crossbow to H-Bomb. Bloomington: University of Indiana Press, 1973.
- Burkhardt, William. Hobnails and Helmets. Chambersburg, Pa.: Robson & Kaye Inc., 1967.
- Calcott, Wilfrid Hardy. Santa Anna: The Story of the Enigma Was Mexico. Norman: University of Oklahoma Press, 1936.
- Cary, James. Tanks and Armor in Modern Warfare. New York: Franklin Watts, 1966.
- Catton, Bruce. The Army of the Potomac. Vol. 1: Mr. Lincoln's Army. Garden City, New York: Doubleday and Co., 1951.
- _____. The Army of the Potomac. Vol. 2: Glory Road. Garden City, New York: Doubleday and Co., 1952.
- _____. The Army of the Potomac. Vol. 3: A Stillness at Appomattox. Garden City, New York: Doubleday and Co., 1953.
- _____. The Centennial History of the Civil War. Vol. 1: The Coming Fury. Garden City, New York: Doubleday and Co., 1961.
- _____. The Centennial History of the Civil War. Vol. 2: Terrible Swift Sword. Garden City, New York: Doubleday and Co., 1963.
- _____. The Centennial History of the Civil War. Vol. 3: Never Call Retreat. Garden City, New York: Doubleday and Co., 1965.
- Clark, Alan. The Donkeys. London: Hutchinson, 1961.
- Clendenen, Clarence C. Blood on the Border. New York: Macmillan, 1969.
- Coffman, Edward M. The Young Officer in The Old Army. Colorado Springs, Col.: U. S. Air Force Academy, 1976.
- Cosmas, Graham. An Army for Empire. Columbia, Mo.: University of Missouri Press, 1971.

- Crites, William R. "The Development of Infantry Tactical Doctrine in the U.S. Army 1865-1898," M.A. Thesis, Duke University, 1968.
- Deweerd, Harvey A. President Wilson Fights His War. New York: MacMillan, 1968.
- Dupuy, R. Ernest. The Compact History of the United States Army. New York: Hawthorne Books, Inc., 1961.
- Dupuy, R. Ernest and Trevor N. Military Heritage of America. New York: McGraw-Hill, 1956.
- Edwards, William B. Civil War Guns. Harrisburg, Pa.: The Stockpole Co., 1962.
- Esposito. Vincent J. The West Point Atlas of American Wars. 2 vols. New York: Frederick A. Praeger, 1959.
- Essame, Hubert. The Battle of Europe, 1918. New York: Charles Scribner's Sons, 1972.
- Firkins, Peter. The Australians in Nine Wars. Sydney: Rigby, 1971.
- Freeman, Douglas Southall. R. E. Lee. 4 vols. New York: Scribners, 1934.
- Fuller, J. F. C. Decisive Battles of the U.S.A. New York: Harper and Brothers, 1942.
- Fussell, Paul. The Great War and Modern Memory. New York and London: Oxford University Press, 1975.
- Ganoe, William A. The History of the United States Army. New York: D. Appleton, 1924.
- Gardner, Brian. The Big Push. New York: William Morrow, 1963.
- Harrington, General Sir Charles. Plumer of Messines. London: John Murray, 1935.
- Henderson, G. F. R. The Civil War: A Soldier's View. Edited by Jay Luvaas. Chicago: University of Chicago Press, 1958.
- Henry, Robert S. The Story of the Mexican War. Indianapolis, Ind.: Bobbs-Merrill, 1950.
- Horne, Alistair. Death of a Generation. New York: American Heritage Press, 1970.
- Hunt, Elvid. History of Fort Leavenworth. Ft. Leavenworth, Kansas: General Service Schools Press, 1926.
- Hyatt, Albert Mark John. "The Military Career of Sir Arthur Currie." Ph.D. Dissertation. Duke University, 1964.
- Ingersol. L. D. A History of the War Department of the United States.

Washington, D.C.: F. B. Mohun, 1880.

Jacobs, James R. The Beginnings of The U.S. Army. Princeton, N. J.: Princeton University Press, 1947.

Johnstone, H. M. A. History of Tactics. London: Hugh Rees, Ltd., 1906.

Keegan, John. The Face of Battle. New York: Vintage, 1977.

Kriedberg, Marvin A. and Henry, Merton G. History of Mobilization in the U. S. Army 1775-1945. Washington, D.C.: Department of the Army, 1955.

Lidell-Hart, Basil H. Reputations Ten Years Later. Boston: Little, Brown, 1928.

_____. The Tanks. 2 vols. New York: Praeger, 1959.

Low, A. M. Tanks. New York: Hutchinson, 1941.

McKenna, Charles D. "Bloodless Battles: The Role of Field Maneuvers in the Development of the U. S. Army, 1898-1912." A. M. Thesis, Duke University, 1977.

Macksey, Kenneth. Tank Warfare. London: Rupert Hart Davis, 1971.

Mahon, John K. and Danysh, Romana. Infantry, Part 1. Army Lineage Series. Washington, D.C.: Office of the Military History, 1972.

Mahon, John K. "Civil War Infantry Assault Tactics." In Military Analysis of the Civil War, pp. 253-265. Millwood, New York: KTO Press, 1977.

Matloff, Maruice, gen. ed. American Military History. Army Historical Series. Washington, D.C.: Office of the Chief of Military History, 1969.

Marshall, Douglas W. and Peckham, Howard W. Campaigns of the American Revolution. Ann Arbor, Mich.: University of Michigan Press, 1976.

Marshall, S. I. A. American Heritage History of World War I. New York: American Heritage, 1964.

Miles, Wilfrid. Battle of Cambrai. Military Operations in France and Belgium. London: His Majesty's Stationery Office, 1948.

Miller, Henry R. The First Division. Pittsburgh: Crescent, 1920.

Miller, John. "Men, Weapons and Tactics." In Army Information Digest 16 (August 1961): 47-52.

Millis, Walter. The Martial Spirit. New York: Literary Guild of America, 1931.

_____. Road to War: America 1914-1917. Boston and New York: Houghton Mifflin, 1935.

- Millis, Walter. Arms and Men. New York: G. Putnam's Sons, 1956.
- _____. American Military Thought. Indianapolis: Bobbs-Merrill, 1966.
- Montross, Lynn. War Through the Ages. New York: Harper and Row, 1960.
- Morrison, James L., Jr., ed. The Memoirs of Henry Heth. Westport, Conn.: Greenwood Press, 1974.
- Nicholson, Col. G. W. L. The Gunners of Canada. 2 vols. Toronto: McClellan & Stewart, 1967.
- O'Connor, Richard. Black Jack Pershing. Garden City, New York: Doubleday & Co., 1961.
- Orgill, Douglas. The Tanks. London: Henteman, 1970.
- Palmer, Frederick. John J. Pershing, General of The Armies, A Biography. Harrisburg, Pa.: Military Service Publishing Co., 1948.
- Palmer, John M. General Von Steuben. New Haven, Conn.: Yale University Press, 1937.
- Pogue, Forrest C. George C. Marshall, Education of A General. London: Mackibban & Kee, 1964.
- Riling, Joseph R. Baron Von Steuben and His Regulations for Order and Discipline of Troops of the United States. Philadelphia: Riling Arms Books, 1966.
- Ropp, Theodore. War in the Modern World. New York: The MacMillan Company, 1977.
- Shy, John. A People Numerous and Armed. New York: Oxford University Press, 1976.
- Singletary, Otis A. The Mexican War. Chicago: University of Chicago Press, 1960.
- Smith, Justin H. The War with Mexico. 2 vols. New York: MacMillan, 1919.
- Spaulding, Oliver L. The United States Army in War and Peace. New York: G. Putnam's Sons, 1937.
- Stallings, Lawrence. The Doughboys: The Story of The AEF, 1917-1918. New York: Harper and Row, 1963.
- Steele, Matthew. American Campaigns. 2 vols. Washington, D.C.: U.S. Infantry Assoc., 1931.
- U. S. Department of the Army. Selected Readings in American Military History. Fort Benning, Ga.: The Infantry School, 1953.
- Utey, Robert M. Frontiersmen in Blue: The U.S. Army on the Frontier, 1848-1865. New York: Macmillan Co., 1967.

Utley, Robert M. The Frontier Regulars: The U.S. Army on the Frontier 1866-1891. New York: Macmillan Co., 1973.

Vandiver, Frank E. BlackJack, The Life and Times of John J. Pershing. 2 vols. College Station, Texas: Texas A & M Press, 1977.

Weigley, Russell F. Towards An American Army. New York: Columbia University Press, 1962.

_____. History of the United States Army. New York: MacMillan, 1967.

_____. The American Way of War. New York: MacMillan, 1973.

Whitehouse, Arch. Tank. Garden City, New York: Doubleday and Co., 1960.

Wiley, Bell Irwin. The Life of Billy Yank: The Common Soldier of the Union. Indianapolis: Bobbs Merrill, 1951.

Whitman, J. E. A. How Wars Are Fought. London: Oxford University Press, 1941.

Wildes, Harry Emerson. Anthony Wayne, Troubleshooter of the American Revolution. New York: Harcourt, Brace and Co., 1941.

Wolfe, Leon. In Flanders Fields. New York: Viking, 1958.

Wynne, G. C. If Germany Attacks. London: Faber, 1940.

III. Biographical Sources

Cullum, George W. Biographical Register of the Officers and Graduates of the United States Military Academy, 1802-1930. 7 vols. New York: Houghton Mifflin and Co., 1890-1931.

Heitman, Francis B. Historical Register and Dictionary of U.S. Army. 2 vols. Washington, D.C.: GPO, 1903.

Johnson, Allen and Malone, Dumas, eds. Dictionary of American Biography. 20 vols. 5 supplements. New York: Scribners, 1930-1955.

Marquis, Albert. Who's Who in America. Chicago: Albert Marquis and Co., 1912.

U. S. Department of War. Official Army Register. Washington, D.C.: The Military Secretary's Office, 1812-1919.

Webster's American Military Biographies. Springfield, Mass.: G. C. Merriam and Co., 1978.

White, J. T. and Co., ed. National Cyclopedia of American Biography. New York: J. T. White, 1933.