Introduction

This brief paper is designed to introduce Civil War reenactors with the practical realities of tactics and small unit combat as it was practiced in the era of rifle and saber. These aspects of Civil War combat are seldom portrayed at reenactments or even at the occasional free form "tactical," and when they are practiced, tend to be hopelessly inaccurate in both theory and in execution. This is an unfortunate lapse, for two reasons. First the drill manuals of Casey and Hardee are generally the beginning and end of source study, and these manuals – despite their titles – do not deal with "tactics" as we now understand the concept. Second, the vast proportion of soldiers' combat experience during that war consisted of small-unit tactics – out-posts, advanced-guards, patrols, foraging, and other activities quite distinct from the extremely rare conventional engagement in line of battle.

Interpreting field practice from the Civil War is exceptionally difficult because of a lack of documentation. While large battles are covered in some detail in the histories, the range of references – counterpart of the modern Field Manuals – is relatively sparse. Most of the pages were devoted to school of the company and the battalion in large-unit operations. As noted elsewhere in this work, the actual field techniques must be gleaned from occasional first-person accounts and from educated guesswork.

This paper should not be used alone, but as a gloss or elaboration on *The Outpost* by D. H. Mahan and from General Butterfield's supplementary volume. I have tried to mix theory with practical application, adding some more detailed descriptions of arts almost unknown in the Hobby, such as terrain analysis.

A short manual like this one cannot possibly cover the breadth and depth of knowledge of the art and science of war as understood by professional soldiers in the 1860's, but may help living historians understand at least some of the concepts as they were taught by professionals to the Volunteer officers of the war.

The Author

Timothy R. O'Neill entered the hobby after a 25-year career as an officer in the United States Army, including two years of combat in Viet Nam and 15 years as a member of the tenured faculty at West Point. Colonel O'Neill commanded tank and armored cavalry units, and served on squadron and brigade staffs. He was a member of the permanent faculty of the Department of Behavioral Sciences and Leadership at the U. S. Military Academy from 1976 to 1991.

Since retirement, Tim served as Vice President of Star Mountain, Inc., a Washington-area training company, and presently serves as President and Chief Operating Officer of MSG&S, Inc., which provides equipment, services, and training for antiterrorism and security for clients worldwide; he also plans and conducts training in techniques of military instruction for foreign elite military and law enforcement units.

Tim holds a bachelor's degree from The Citadel, the MA in College Teaching from the University of North Carolina, and the Ph.D. in Experimental Psychology and Neuroscience from the University of Virginia; he is a graduate of the Armed Forces Staff College, and is an adjunct lecturer for the Johns Hopkins University. He is author of two books and numerous articles and monographs on military and scientific topics.

Tim is Chairman of the 28th Regiment, Massachusetts Volunteer Infantry, and serves as first lieutenant. His great-grandfather served in Company C, 4th Tennessee Infantry and the First Foreign Battalion, C.S.A.

Contents

I. From Drill to Tactics

1. Background

The reenactment hobby as it has evolved tends to stress two aspects of the Civil War soldier's experience: camp life and carefully scripted (or — all too often — indifferently scripted!) set-piece battles. Camp life impressions are crucial for living history purposes and to provide satisfaction to participants; stand-up fights and reenactments do so as well, and provide entertainment for spectators and heighten interest in the Civil War. Set-piece battles are also entertaining and somewhat informative for the public, but are often marred by a lack of realism.

That lack of realism comes because serious reenactors rely too heavily on common sources like Casey's *Infantry Tactics*. These can be mastered by careful study, and the basics taught to reenactment units. Unfortunately, this is only part of the story, and I have yet to meet a commander in the Hobby who has more than the sketchiest knowledge of the rest of the plan. Casey and Hardee write about *elementary tactics*, or, in simpler language, *drill*. They get us to the battlefield, but than abandon us. Actual tactics as we now understand the term is in the realm of what was then called *grand tactics* or, in simpler terms "how to fight a battle."

There is more to a rifle and saber fight in the 19th Century style than endlessly groping for flanks. There were, and are, established principles of war. If we understand those higher organizing principles as well as the mechanics of getting to a fight and maneuvering when we arrive, three things will happen. First, we will understand far more or what the soldiers and their leaders faced. Second, we will give the paying spectators – at long last – a clear idea of how a Civil War battle looked. Third and last, we will be a lot prouder of what we are and what we're doing, which means we'll have a lot more fun and a lot less bickering.

But to reach this goal, we need to know what to do. It isn't in Casey or Hardee. It was found in the professional education and experience of career officers, educated at West Point and trained in Mexico and on the frontier. The education was based on the history of the art and science of war, taught by scholars like D. H. Mahan and by professionals who had proven their worth. Those educated in the profession of arms knew where the principles came from – from Epaminondas of Thebes and Alexander of Macedon, from Hannibal and Scipio and Julius Caesar, from Chingiz Khan and Timor the Lame, from Gustavus Adolphus and Marlborough and the Duc d'Enghien, from Vauban and Frederick the Great and Napoleon and Wellington, from the volumes of Jomini and Clausewitz. The professionals read volumes in the original French, and they recited every day in class lest they be "found deficient" and sent back to their towns and farms.

The professionals wrote the manuals of elementary tactics, master plans designed by professionals for execution by idiot militia. The rest of the keys they kept themselves, and took as their responsibility the task of teaching the officers of the Volunteers what they knew.

Another vital factor ignored in most events and activities of the hobby is the 99 percent of combat operations that placed soldiers in harm's way but did not involve the infrequent major slugfest: routine (and sometimes decidedly *un*routine!) outpost duty, tactical movement with advanced-guards and flankers, reconnoitering, delaying actions, and other small-unit missions

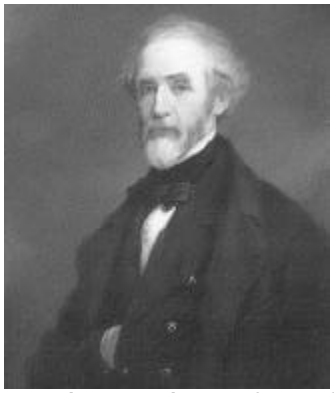
that have remained largely unchanged in principle to the present day, though the methods of execution have altered significantly.

Because of this gap in experience, reenactors miss a major part of the practice of war; to this extent, they are shortchanged in their understanding of soldiering – and so their capacities as living historians are necessarily stunted.

2. Mahan

Part of this gap in the hobby is due to a gap in knowledge. Big battles are chronicled in detail and discussed unendingly; analysts and historians are familiar with large-unit tactics because understanding the battles is useless without this background context. But small-unit operations, while they are frequently decisive in a cumulative way, are seldom described in detail. Hence, Casey is much more intensely studied than is Mahan.

Mahan is the chief resource for actual tactics (particularly small-unit tactics) of the day, and *The Outpost* is written in a style somewhat less dense than Casey's often turgid or elliptic prose.[1] However, Mahan's *Outpost* suffers from three shortcomings.



Dennis Hart Mahan, Professor of Natural and Experimental Philosophy and Engineering, United States Military Academy. (John Weir) D. H. Mahan's fame is eclipsed by that of his son, the famous naval theoretician A. T. Mahan.

First, it tries to do too much. A large proportion of the book is taken up with a history of the military art from classical times through the Napoleonic Wars. This is all interesting and conforms to the methods and goals of West Point's hoary History of the Military Art during the years this subject was taught by the Department of Engineering. My guess is Mahan couldn't resist the opportunity to lecture the various militias on his chosen subject. But this discussion, while providing the broadest of contexts for the reader, does not fit well with the stated objective: reinforcing uniform small-unit operational skills.

Second, it is a manual written from the perspective of a military theorist rather than that of a muddy-boot soldier. While it is full of intriguing information (where else, unless in the old *Boy Scout Handbook*, could one find directions for making a range finder from a pencil and a length of twine?), there are odd gaps and a scarcity of practical perspectives and tips. The reader gets a bird's-eye view of how it's *supposed* to be done, but precious little confidence that these directions are any more than theorems to be memorized for a classroom recitation (as indeed cadets in Mil Art were supposed to do in class – practical exercises came then and come now in the summer encampments).

Third, though the publication date in present copies is 1862, it was actually begun before the outbreak of war for the instruction of the state militias, to assure some modicum of uniformity of practice. The curse of the militia system is most apparent when the time comes to mobilize for

[1] The actual title tells it all: *An Elementary Treatise on Advanced-Guard, Out-Post, and Detachment Service of Troops, and the Manner of Posting and Handling Them in Presence of an Enemy. With a Historical Sketch of the Rise and Progress of Tactics, &c., &c. Intended as a Supplement to the System of Tactics Adopted for the Military Service of the United States, and Especially for the Use of the Officers of the Militia and Volunteers.*

Mahan Hall, West Point

Federal service, and the constituents of the Army are reading from different texts — or none at all. In this case, however, Mahan's recent experience was sparse and much of Civil War doctrine developed after the outbreak as the armies learned how to fill in the inevitable gaps in prewar practice. Theory is nice, but America's military structure grew in two years from a backwater Regular Army dedicated to drawing maps, controlling floods, and suppressing Indians to the two most powerful veteran armies then on the planet. This happened on the "Indiana Jones Plan" — they made it up as they went along.

One inevitable result is that soldiers and their leaders developed practical ways of doing things based on theory *and* practice. Many of these tricks of the trade never found their way into formal manuals during the war, and hence are not convincingly documented, as are large-unit tactics. This creates a problem for reenactors trying to reconstruct the details.

In addition, General Dan Butterfield wrote a simplified supplement (*Camp and Outpost Duties*) to Mahan for use by Volunteer outfits. This book is not in general circulation, but an acquaintance from another unit loaned me a copy of an original. As I suspected, the advent of war and mass mobilization led to a simplification of prewar principles and procedures. I have incorporated them where appropriate.

3. Filling in the gaps

Some of the practices can be derived from interpretation of Mahan or Butterfield with a dose of reality; others can be inferred from references in other works — first-person accounts, contemporary analyses, letters home, and other informal sources. Beyond this, the most effective approach is what I will call *devolution*. Contemporary veterans who enter the hobby instantly recognize a reality most reenactors don't glimpse: *the American Army of this century, from the Mexican Punitive Expedition to the Gulf War, is McClellan's legitimate offspring*. We are what we are today because of the experience of the Civil War. The U. S. Army really began in 1861; before that, it was a two-bit marching and chowder society that tried very hard to look superficially like a European army. This ended in the Civil War. After 1865, the U. S. Army was itself, *sui generis*, and needed no foreign model.

Frequently, an effective way to understand small-unit tactics in the Civil War is to look at similar tactics now and "devolve" them: strip away automatic weapons, quick response indirect fire, aerial observation and close air support, GPS, night vision goggles and the rest, and *trace these practices back to their origins*. This often affords amazing insights into the problems the Civil War soldier faced. It also creates an interesting contrast. Recent military experience may actually complicate and resist understanding of large-unit tactics of the 1860's. Modern infantry combat derived from Mahan, not from Casey — Casey's *Infantry Tactics* is really the ancestor of FM 22-5, *Drill and Ceremonies*, instructions for parade-ground maneuvers. Just as all politics is local, so all tactics nowadays are small-unit tactics at the core. We can thus trace modern procedures back to their origins to fill in the gaps, much as knowledge of living human physiology allows the paleoanthropologist to fill in huge gaps in a fragmentary fossil skeleton.

This is the approach I have taken in interpreting Mahan and the general cast of small-unit tactics in the Civil War.

This approach is necessary because there is no authoritative source describing how units actually operated. Mahan tells us when to reconnoiter, but he says nothing about how to do it – what formations to use, how to move, what to do if something goes wrong. In short, there is no *Ranger Handbook* for the Civil War period. This requires us to fill in gaps, and for this purpose I have chosen the "devolution" technique.

For example, much is made today of combat formations used in patrols. Mahan and Butterfield don't discuss these formations in any clear way, but it makes sense to presume that standard skirmish formations were used in daylight, while night patrols used close-interval files. This and other gaps in knowledge must be covered by thoughtful interpolation.

In short, Mahan tells us how operations should be conducted; later sources (most notably Griffith) tell us what was done; and this manual addresses practical considerations of how to do it.

4. Using this manual

A full consideration of grand and small-unit tactics of the 1860's is a far larger project than the Hobby needs (and can be found in other sources by serious historians and curious members of the Hobby, anyway). In choosing topics, arranging them as logically as I can, and choosing the level of detail, I have tried to keep two things in mind: the needs of the Hobby and the audience. The needs of the Hobby seem to me to be (a) a very basic understanding of tactics, and (b) special attention to topics about which few reenactors know anything at all.

Some reviewers have suggested that my writing style may be too demanding, and should be pitched to the legendary "eighth grade reader." This seems to me a silly suggestion, and always has; I rejected it when I was studying for the MA in education, ignored it when I was a teacher, and wrote books and articles for 30 years pitched at the level of the knowledge to be transmitted to the learner. Believe me, no imaginary eighth grader could wade through Casey or Hardee or Mahan; if they can't understand the basic texts, my only option would be to rewrite the whole magillah in short words and excruciatingly uncomplex sentences. I don't have time for that, and neither (if you have read this far) do you.

The basic chapters of this manual address very specific tactical requirements necessary to plan and direct military operations at a large "tactical." That is, I have included not only the basics needed to direct the traditional powder-burning stumble in the sun (or through the mud), but the instructions for how to plan a battle, how to get to the battlefield, and how to operate around the clock in a "threat" environment.

This is what a growing sector of the Hobby (the "progressives") seems to want. Here it is, if you can handle it. It takes work – skull-sweat and creativity and attention to detail. But you have a "trade" to master if you really want to lead the Hobby to excellence. Try the principles and procedures described here. They've been working, in one form or another, since Ramses the Great battled the Hittite on the Field of Megiddo.

A note on terms: In writing this manual, I have tried to avoid using technical expressions that would have been unfamiliar to officers studying military science in the first half of the 19th Century. This is difficult, as most of the primary sources were then written in French, and

educated people even in the wilds of America were likely to read French with some facility. I have used modern terms only when they are the most powerfully descriptive to a modern reader, and have identified them as non-period in each case.

Chapters II through IX describe a set of operational requirements and, in what I hope is adequate detail, how to meet them. I begin with the advanced-guard and end with the proper use of cavalry, with a lot of potential mischief in between.

There are three appendices. The first is a very brief discussion of terrain analysis – knowing what "the good ground" is and how to find it and exploit it, a subject burdened with a lot of reenactor mythology. This material must be supplemented by experience. Whenever you go to an event (or drive through the country on a Sunday) look at the ground carefully. How would you use it to capture an advantage in battle?

The second is a very specific and technical instruction in how to make a sketch map.

The third is a combination military dictionary and simple, intense lesson in tactics, using examples that would have been familiar to professionally educated soldiers of the 1860's.

And always remember: We're not real soldiers. We're just trying to look that way.

5. Further reading

In preparing this manual, I relied heavily on several sources; I recommend them to you as well.

Mahan's *The Outpost* is difficult reading. My understanding was assisted by cadet courses in military history at The Citadel many years ago, as well as studies since. It is well to recall that Mahan was a military engineer, and thinks like an engineer. West Point was then principally a source for engineers (and in fact until the 1950's West Point's course on military history was called *Military Art and Engineering*, and was taught in the Department of Engineering! Then West Point decided to lighten up and have a history department). Mahan presupposes a general knowledge of the historical references he uses. Without a context, some of these general discussions can be confusing. At their origins, however, they make good sense.

I also examined some secondary sources, most notably Paddy Griffith's *Battle Tactics of the Civil War*. This reference provides a good background, but tends to be a European view of the Civil War, and sometimes sinks to selective interpretation and that kind of sarcasm that is anathema to the historian's trade. For example, Griffith does not seem to be sure of where to place the war. He states that it was the "last Napoleonic" conflict, but goes to great lengths to question that claim. He also takes U. S. leadership to task for peculiar things. He is impressed with the concept of an elite force of picked soldiers like Napoleon's Imperial Guard, held back until advantage is gained by the line units, and then thrown in to exploit at the critical moment. He interprets the failure of American commanders to use this as a democratic reluctance to have an "Imperial Guard," but fails to mention the principal argument against it – that elite units drain talent from the rest of the Army, which has to set up the enemy for the kill before the fancy *corps de chasse* can be thrown in. He also accepts Napoleonic concepts of heavy cavalry in the assault uncritically (though his shots at misuse of the mounted arm sometimes strike home). However, no examination is complete without a good exposure to Griffith.

Griffith's companion volume, *Battle in the Civil War*, is by contrast a jewel. It condenses the points made in the original work and ditches the annoying archness that flaws *Battle Tactics*, and uses pen and ink illustrations by Peter Dennis, drawings so various and so rich in detail that they serve almost as a separate text, much as Charles Reed's line drawings enlivened and illuminated Billings's *Hard Tack and Coffee*. Both of Griffith's books are usually available in NPS bookstores at the major battlefields.

I also recommend *Military Analysis of the Civil War* if you can lay hands on it (New York: Millwood, 1977), as well as *Maps and Mapmakers of the Civil War* by Earl B. McElfresh.

For the terminally determined, there is also H. W. Halleck's *Elements of Military Art and Science*, for which he earned the nickname "Old Brains." It was reprinted about 20 years ago, and I troubled to read it in its entirety, but no longer have the reference. A "most serious work, most serious."

II. Advanced-guards

1. **Purpose**

Advanced-guards are used to screen the movement of a large force in a "tactical" situation – that is, when there is a probability, however low, of encountering the enemy. The advanced-guards are something like an outpost line on the move, and have the same two missions: (1) to detect the enemy and determine his strength, dispositions, and intentions, and (2) to slow the enemy if necessary and give the main force time to deploy.

2. Size

How large should the advanced-guard be? Mahan wrestles with this question and, being no fool, does not give a definitive answer. In fact, it "depends on the situation." In determining the proportion of your force that will be detailed for advanced-guard, consider the following:

- What is the threat? How much do I know about the enemy? Is he likely to attempt to block my advance with significant forces, engage in decisive combat, or just harass me and slow my advance? Am I likely to encounter enemy cavalry or infantry or both?

- What is the nature of the terrain along the route of march? Is there cover and concealment; are there hills and defiles in which an enemy might hide and spring an ambush?

- How large is my force? If I detach, say, a third of my force to form an advanced-guard, will I have enough remaining to support the advanced-guard and deal with the threat?

Here are some rules of thumb:

If your force is small (one battalion or less), detach no more than a third, and that much only if the enemy's size, location, and intentions are a mystery.

If your force is large (a brigade or more), detail no less than a company – more if the enemy's location and strength are unknown.

If the terrain offers good cover and concealment for an enemy, and especially if there is a risk of ambush, use a large advanced-guard. If the terrain allows you to view the country for a good distance, a smaller advanced-guard may be adequate because of the longer lead-time to deploy against an enemy force.

3. Formations

With respect to the disposition of the advanced-guard, we can be more specific. In general, the advanced-guard will have three parts. The main guard (say, a company) is placed about 100 yards in front of the main force on the march. The distance of "100 yards" is subject to the nature

of the terrain and how far you can see. The company sends one of two platoons forward about another 50 yards. The lead platoon sends a small element – what we now call the "point" – another short distance ahead, in this case, as far as possible without being generally lost to the sight of the platoon behind. (You may note the resemblance to grand-guards, pickets, and advanced-posts; again, advanced-guards are just advanced-posts on the move.) Hence, the advanced-guard has an advanced-guard, and the advanced-guard advanced-guard has an advanced-guard!

Why all this complication? For the same reason as the layers of outpost elements in a static situation. The lead element detects the enemy and gives warning, and then falls back on its platoon (-) while the company (-) is deploying to engage and delay the enemy. The lead platoon, now (we hope) rallied, falls back under pressure to rejoin the rest of the company comprising the advanced-guard. Meanwhile, the commander of the advanced-guard (in this case, the company commander) has sent a courier back to the commander of the main force, which will be deploying for a fight in the brief space of time provided by the gallant advanced-guard.

Or so it is supposed to work. If the advanced-guard is careless and allows the enemy to overrun them too quickly, the main force may be in danger. Remember: a battalion or brigade using and advanced-guard is marching by the flank. If attacked by an enemy force – even one smaller than the main force – at a location such as a defile where it is difficult or impossible to deploy into line, an enfilade situation quickly develops in which a smaller force can deliver more fire on the larger one than the larger one can return.

4. Movement

An advanced-guard cannot be content simply to stroll along a road. The commander of the advanced-guard must be alert in "reading" the terrain, locating in advance likely hiding places and positions from which an enemy force can achieve surprise. It may be necessary to detach small patrols (2-4 men) to check out critical points that could command the route of march. When crossing an obstacle (see below), one platoon may halt and cover the advance of the other, then leapfrog forward.

There will always be a tension between the desire of the overall commander to move forward rapidly and the due caution of the officer commanding the advanced-guard. Generals do not like to see troops sitting beside the road again and again while the advanced-guard checks out every little bush and gully. To keep moving forward at a steady rate, the advanced-guard may be forced to expend a lot of energy. For this reason, it is often helpful to relieve the advanced-guard company[2] with a fresh company from time to time.

[2] The advanced-guard need not be a company, of course. In some situations, a brigade or division may put a whole battalion forward; a brigade may screen the advance of a corps. The question is always: "How much time will it take me to deploy to fight? How large an advanced-guard will be necessary to buy me that time?"

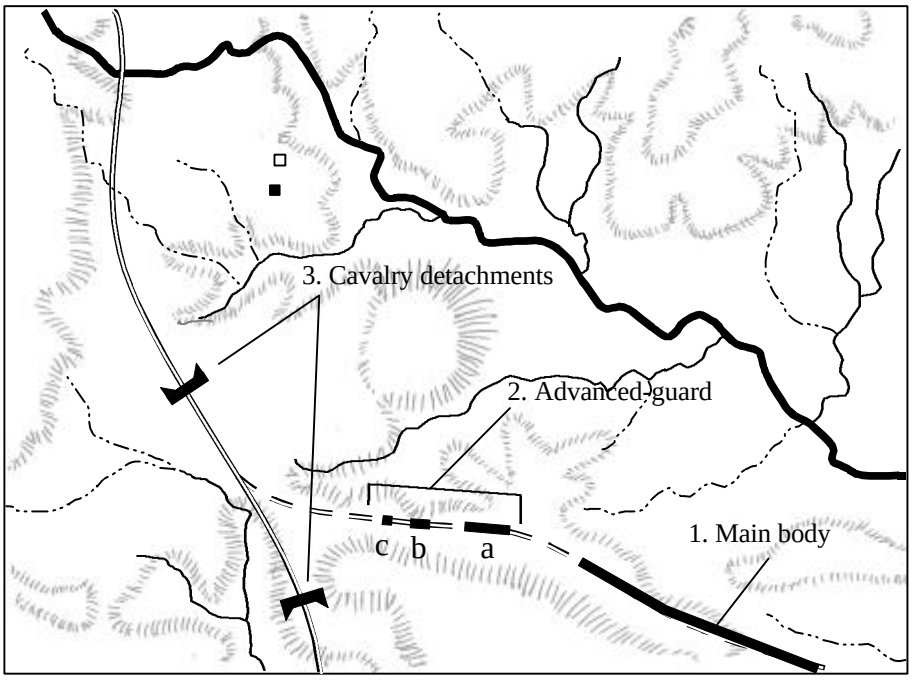


Figure 4: A battalion moves with advanced-guards. The main body (1) advances from east to west along a road, with one company detached as advanced-guard (2). This company includes a rear platoon (a), a forward platoon (b), and a small detachment from the forward platoon (c). The mission of the advanced-guard is so vital that a senior staff officer of the battalion is usually placed with the lead elements, along with one or two couriers for communication with the battalion commander. In addition, the key terrain ahead and to the flanks is covered by small detachments of cavalry (3).

III. Flankers

1. Purpose

In a tactical march, there is also danger from the flanks; but that danger is somewhat different from an ambush or meeting engagement from dead ahead, and this affects how we secure the flanks.

First, a column marching by the flank must execute some complicated and time-consuming maneuvers to get deployed against an enemy storming in from the front. As noted above, an enemy already deployed can easily "cross your T," as the Navy puts it; attacking from enfilade. But if an enemy attacks from the flank, the column theoretically comes to a "front" and faces the enemy without the danger of being enfiladed while executing a movement from the flank to line of battle.

However, a surprise attack from the flank can succeed if the attacker is in a superior position. This kind of ambush is difficult to pull off unless the terrain – cover and concealment, observation and fields of fire – favors it.

A good example is Jackson's attack at Brawner's Farm that kicked off Second Bull Run and earned the Iron Brigade its name. Surprise was achieved. If not for the steadfastness of those men from Wisconsin, Michigan, and Illinois, the outcome of the campaign might have been even worse than it turned out to be – if that is possible.

2. Size

Flanker strength will generally be much lower than the advanced-guard. The reason for this is fairly simple. Because it is easier for a column marching by the flank to deploy against a threat from the right or left than from the front, delay is less necessary than simple early warning. Flankers are more like skirmishers moving sideways than like a movable out-post line.

Consequently, the detachments should be large enough to cover the length of the column at skirmish interval × two flanks.

3. Formation

C. W. Reed's drawing of flankers in Billings's *Hard Tack and Coffee* is probably fanciful. The line of flankers is much too close to the column to provide any useful early warning – they are more like parade marshals than flank security! The distance to the main column should be dictated by the threat and the terrain – how far to the flanks must the flankers be to see threats? If there are open fields all around, the usefulness of infantry flankers is limited – they would have to be placed so far out to add any margin of early warning that communication would be a major obstacle. (In such cases, flank security is better provided by cavalry – see below.)

The most useful formation is probably as "skirmishers marching by the flank."

4. Movement

The biggest single problem for flankers is maintaining connection and pace with the main body. The main column will frequently move down a road or trail. This means the flankers will usually have to hack through woods, climb over or wade through obstacles, and generally have a hard time keeping up. As with the advanced-guards, this argues for replacing flankers on a regular basis to avoid fatigue. It also requires the commander and staff to maintain contact with advanced-guards and flankers at all times so the whole affair doesn't get impossibly strung out and separated.

If parallel roads are available, or the country is open with little concealment, cavalry can be used in the flanker role. Sometimes (as in the initial movement to contact at the Wilderness) cavalry and infantry are used at the same time, with mounted troops on the outside and infantry flankers closer in. In the Wilderness case, this otherwise sound approach didn't work because the nature of the country prevented the cavalry and the main force from communicating readily, since horses could not penetrate the dense growth any faster than dismounted soldiers.

IV. Rear-Guards

1. Purpose

Rear-guards are not simply advanced-guards in reverse. Advanced-guards have as a primary mission finding the enemy. Since rear-guards are generally used to cover a withdrawal under pressure, that problem has taken care of itself! The rear-guard is detailed to delay the enemy's pursuit.

Why? Because a pursuing enemy generally moves at the same speed as the withdrawing[3] force. To open the space and allow you time to get to a safe position, the gap has to be widened. The rear-guard does this by forcing the pursuer to deploy and fight annoying skirmishes again and again while the prey marches off.

Consider this as well: warning intervals are different for bodies of troops moving in the same direction and those moving towards each other. If two forces are approaching (a "meeting engagement"), reaction must be quicker, so the three layers of the advanced-guard are necessary to give the main force time to deploy. The job of the rear-guard is easier in the sense that the "closing speed" of two forces approaching each other with a rate of march of 2 miles per hour[4] (about a common step rate) is 4 mph. If pursuer and pursued are both moving at 2 mph, the rate of closure is zero! This means the urgency of early warning is less for the rear-guard. However, the rear-guard in a fighting withdrawal is vulnerable to some unpleasant outcomes, and may in emergencies find itself "expendable," as we shall discuss.

2. Size

Here again the question of the size (and proportion of the main force) depends on the situation. How badly battered is the withdrawing force? What are the proportions of combat power for the pursued and the pursuer? What are the stakes? (These are questions that Napoleon and his increasingly disgruntled Marshal Ney had to contend with at the crossing of the Berezina in 1812. Ney bought time for what was left of the *Grande Armée* to slip away from the Russian pursuers, but the result was the sacrifice of his force.)

Basically, the question is: How large a force is necessary to delay the pursuit? If your rear-guard is too small, it may be devoured without causing the enemy much inconvenience. If too large, it may simply precipitate another battle like the one you just lost. If you can't spare much, look for a good place to defend to the last, like Lysander and his 300 Spartans at Thermopylæ.[5]

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[3] I do not use the term "retreat" in this discussion. By common agreement since WWII, the United States Army does *not* retreat. It may withdraw, retire, or conduct a retrograde operation, as the situation dictates. The bugle call *Retreat* is now used only to announce the end of the duty day and precede the lowering of the flag.

[4] The sustained rate of march of a large formation of infantry in full field order was about 1.5 mph in World War II.

[5] The author expects each reader to look up each and every one of these obscure references from military history, including this one from the Persian Wars.

3. Formation

Here I can only give a recommendation, derived liberally from Mahan. A main body prepared to form into a dense skirmish line or line of battle at defensible positions, supported by a smaller detachment as skirmishers to provide early warning, may be sufficient.

NOTE: The nightmare of retreating forces in general and rear-guards in particular is cavalry. Cavalry, at least in good cavalry country (see discussion below), moves faster than an infantry force can generally retreat, and this principle makes exploitation and pursuit a major mission for the mounted arm. Without flank security, a rear-guard may be entertained in front and flanked on both sides by cavalry, cut off and cut to pieces. Mounted armies like the Mongols *loved* to do this. In such a case, most of the withdrawing force's cavalry should probably be detailed to rear and flank guard duties, guarding against the depredations of the Cossacks.

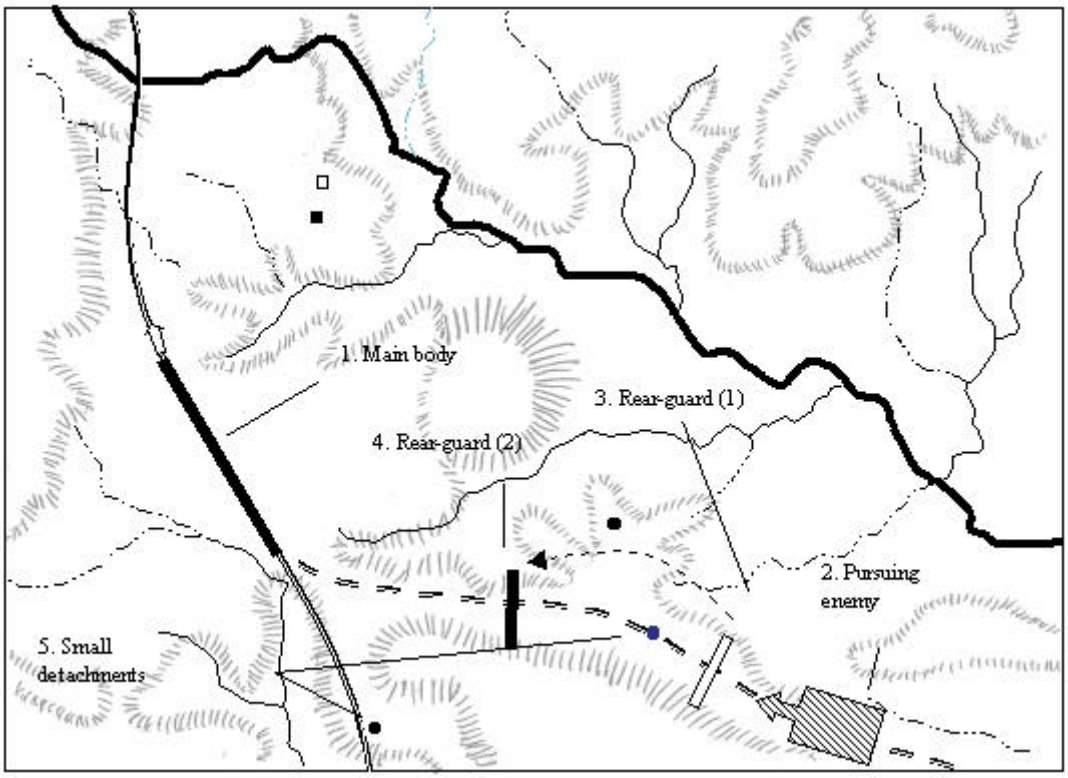


Figure 5: Rear-guard. The main body (1) is withdrawing to the north under pressure of a pursuing enemy force (2). The rear-guard withdraws by stages from one position to the next, delaying enemy pursuit (3,4). To guard against surprises, the rear-guard also deploys small patrolling detachments (5) to watch for possible enemy moves wound the flanks of the rear-guard.

4. Movement

Rather than moving steadily behind the main body like an advanced-guard in reverse, the rear-guard should try when possible to take a defensive position whenever the terrain favors it, causing the enemy to deploy each time and slow down the pursuit. The commander of the rear-guard should always be careful to avoid a decisive engagement when possible, as the pursuing force will obviously outnumber the rear-guard, and once heavily engaged the rear-guard can be pinned down and by-passed by the main enemy force.

Under some circumstances, the rear-guard may be required to take a stand and sell itself dearly to let the main force escape. At a river crossing, for example, utter disaster would likely befall the retreating force if the pursuers were to catch up at such a vulnerable moment. *Élan* was invented for such moments, and there will be plenty of medals to hand out.

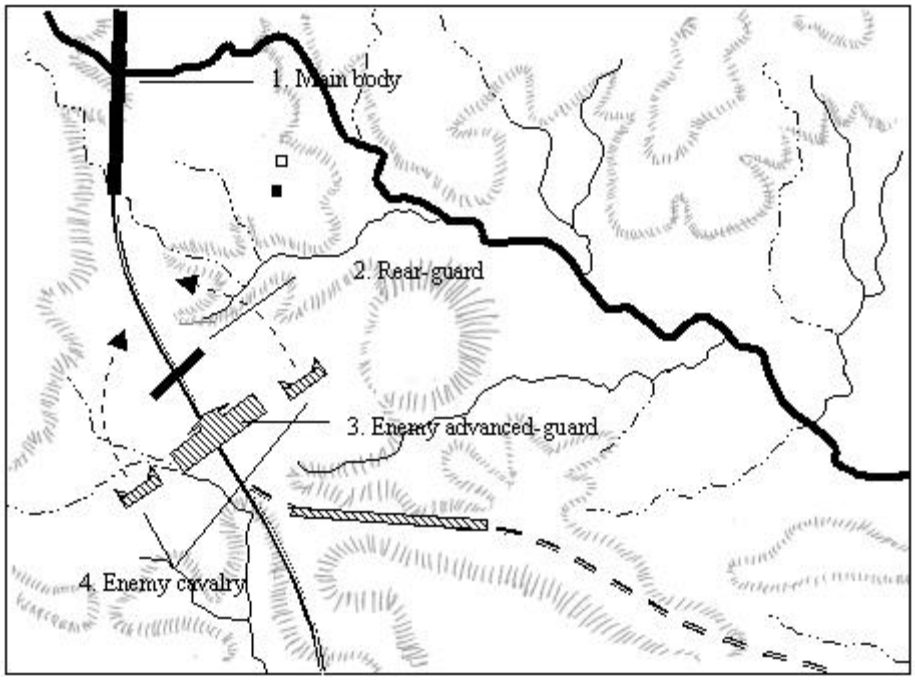


Figure 6: How to lose a rear-guard. Pursuing enemy infantry or cavalry engages the rear-guard and pins it in place. Cavalry swings around both flanks ("pincer movement").

V. Crossing Rivers and Other Obstacles

A marching force is most vulnerable at points when, for reasons of terrain or other conditions, it cannot easily deploy to face an enemy. Marching through a defile or pass or crossing a ford or river is a touchy time, and may spoil the commander's day. An alert enemy determined to delay your advance or even disrupt it altogether can spot these points and exploit them with a wicked *coup d'oeil*. Learning how to get across these critical points in the march is a necessary skill.

We will use the example of a ford in a river. A ford is, by military definition, a place permanently or seasonally shallow enough for troops to cross without bridging, and with a bottom firm enough to support crossing by artillery and caissons and wagons. In the Hobby, we will never conduct fording in unsafe conditions – the water will probably never be more than knee-deep, and cavalry will not have to stand upstream to break up the current! Nevertheless, many river crossings must be conducted on a narrow front, and a column split across an obstacle is in a very tough spot. An opposed river crossing is still one of the toughest tricks in the manual.

However, even a simple fording can be a problem because the column will necessarily be split in three: the part already across, the part in the water, and the part waiting to cross. Deploying into a defensive posture will be difficult, particularly if the fordable area is narrow. A skilled enemy may be able to inflict damage on the forward elements before the rest of the force can move to support, or may cause such confusion on the far shore that the crossing has to be abandoned.

First, reconnoiter the crossing point. This is best done by a small body of cavalry. Examine the alternative sites, their approaches and exits on both sides, the condition of the bottom, depth of water, speed of current, observation and fields of fire on both banks. HINT: Small bodies of cavalry scouting fords sends a signal clear to all but the most incurably feeble-minded. It's a good idea to scout a number of sites even if one is the obvious choice, to avoid telegraphing your punch.

1. **Procedure:** The most important step is to establish a defensible presence on the far shore. If no enemy is in sight, the advanced-guard should cross, one "layer" at a time. Once the advanced-guard is across, the officer in command should do three things:

   a. Cross the advanced-guard covered by lead elements of the main body and occupy a defensible position to cover the crossing of the main force. A priority is finding the best terrain from which to do this. Since rivers tend to be lower than the surrounding country, the shore is probably not a good position – it may be necessary to push farther out to find a good spot.

   b. Put out security. Out-posts should be posted down the path that the main body will march (and down which an enemy is likely to come), as well as upstream and downstream.

   c. Report to the commander of the main force as soon as the far shore is secure.

This should be done routinely for “unopposed” crossings – that is, cases where the enemy is not visible and waiting for you on the other side. An opposed crossing is a much more complicated trick, and one very hard for practical and safety reasons to simulate in the Hobby. However, it can be done with referee help, so I’ll describe the official solution.

The best approach, if resources permit, is to bring up artillery to a position commanding the crossing, bring fire on the enemy positioned on the far side, and push as strong a force as possible across under cover of artillery. The leading force is not the same as an advanced-guard – the mission of detecting the enemy is moot if he is already looking down at you, grinning. The assault force should consolidate in the best positions it can find on the far shore. The main force should then start feeding into the far shore position, expanding as more men cross. Eventually – with luck – the bulk of the force will be across and can deal with the enemy.

This can work if the enemy is numerically smaller and not dug into unassailable positions. If he has done this, it is probably a good idea to scout around for another crossing site. Another dodge is to make several feints, inviting the enemy to shift his defensive force away from the crossing site.

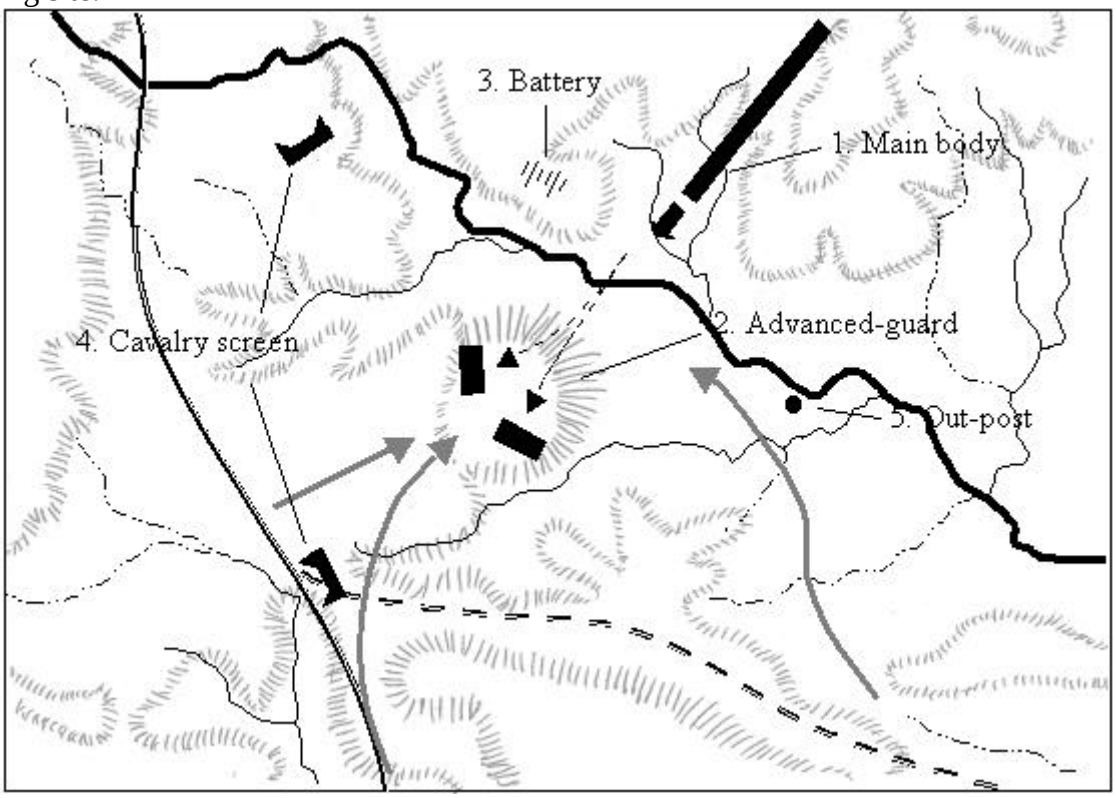


Figure 7: Protecting a fording operation. The main body (1) approaches from the northeast. Cavalry scouts possible fording sites; when the crossing point has been chosen, the cavalry pushes out to the more distant observation points (2) and the artillery is positioned to protect the crossing (3). Meanwhile, the advanced-guard fords and occupies the hill to the front of the ford (4). Greatest risk to the main body during the crossing comes from a direct assault on the central hill – unlikely because the approach can be observed – and along two axes from the south and southeast (red arrows). The outpost (5) has been placed to give warning against an attack from the southeast.

VI. The Outpost Line

1. The advanced-posts

Unlike other elements of grand-tactics, Mahan is very specific about advanced-posts, their functions, and their dispositions.

It's useful to remember that commanders didn't always do these things, and so frequently came to grief. Grant failed to do properly it at Shiloh, and so effectively had a division overrun. Devens didn't do it at Chancellorsville; same result. Hill failed to do it at a critical time in the Wilderness, and would have lost the war had Longstreet not arrived at just the right moment. And these were prudent commanders; Hill in particular (after three years of practice) should have known better. These exceptions demonstrate the necessity for doing it properly.

Bear in mind, the idea of outposts is to alert the commander of enemy approach and buy time to get the main body deployed in line of battle before the Mongols have piled your heads in great mounds and sat down to eat the meal you were cooking. This means there are really three elements: the *outposts*, which provide warning; the *pickets*, which delay the enemy until the main force can pull on its brogans and get into formation, and the *grand-guards*, which must meet the enemy.

It's conceptually simple: The sentinels at the far extreme need to be exposed, or they can't watch for the enemy. In addition, they can't stay awake 24 hours a day. This means they must have a secure location out of sight of the enemy to and from which they can rotate so the sentinels are always fresh, and at which they can cook rations and catch some sleep. This is the *out-post* – the position from which sentinels are rotated and supported. If the sentinels are pressed by the enemy, the advanced-post also provides a rally point where the sentinels can form to begin retiring towards the line of the *pickets.* (The concept of a *rally point* is very important and not explicitly described by Mahan; we will discuss this idea in more detail later.) The pickets provide a reserve to support the collapsing line of outposts, and are usually placed at critical points on the major avenues of approach to the main body to allow for a brief delay and to lower the risk of having to abandon the out-posts and sentinels to the Andersonville Hilton. If the enemy is likely to use these avenues of approach (comprising defiles, gaps, roads, fords, bridges), so must the outposts, if only because they are unlikely to be able to run any faster than the attackers. As soon as the last retrievable outpost people are past, the pickets can fire a couple of volleys, then fall back on the *grand-guards*. (Note: There is confusion between Mahan and Butterfield about the order of grand-guards and Pickets; I have arbitrarily sided with Butterfield.)

I have some reason to suspect that this elaborate system was much simplified during the war; in particular, the distinction between pickets and the outposts may have blurred somewhat – certainly the terms came to be interchangeable. If nothing else, the concept of outposts with some kind of reserve on which to rally under pressure would have been used. We will proceed from this basic idea.

2. Formations (minus) and the dynamics of the advanced-posts

Now, here is an important point: the concept of *formations (minus)*.[6] We begin, let's say, with the regiment encamped in the field within striking distance of the enemy. Let's say the commander has decided to detach two companies (probably more if the enemy is close and belligerent) to form security. His encamped regiment now has only eight companies, and is technically what we would call a regiment (or battalion) *minus*. The detached companies form the pickets, the last delaying line. But each of these is a *company (-)*, because about a third to a half has been detached to form the combat outpost line[7] (grand-guards, pickets, out-posts, sentinels). Each level is actually a (-) because it has a proportion it must send forward.

This process is like opening and closing a sliding-tube telescope. The security force extends outward from the main body about two miles (I suspect somebody picked this because at infantry march rate – then about 1.5 miles per hour sustained rate, about 2 mph attacking -- that gives the main body enough time to wake up and get deployed), the telescope "clicking" at each point and the detachments moving forward to the next "click." The systematic collapse under enemy pressure is the reverse:

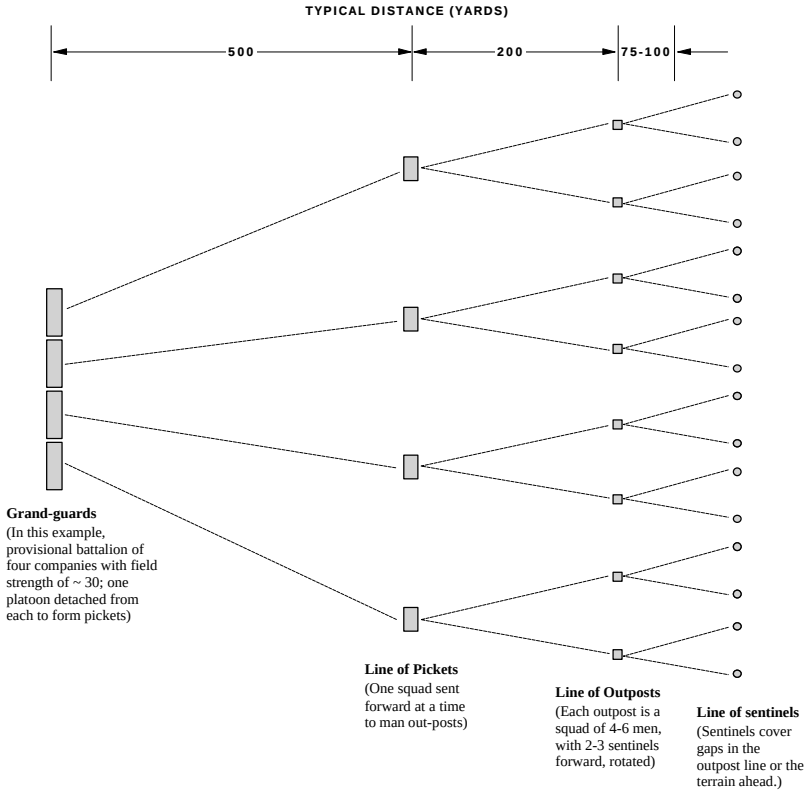


Figure 3: Advanced-posts, grand-guards, and pickets. (Adapted from Butterfield.)

(a) Enemy is observed by sentinels; enemy presses forward, sentinels withdraw to rally on advanced-posts.

[6] Terms like "company minus" are contemporary, not period; I use them here for clarity. The "minus" indicates a formation from which a part of the strength has been **detached.**

[7] The term *combat outpost line* is more contemporary; it has the same general meaning as advanced-posts.

(b) Out-posts (now probably sections, reconstituted) retire to line of pickets. These outposts will now probably be reconstituted platoons. This is one example of the tactical use of a separate platoon; the other is found in the division of platoons in skirmish order.

(c) Pickets retire only rapidly enough to keep enemy in sight, after having informed the grand-guards by courier or other signal. Pickets should not actively delay the enemy; at most (if the enemy does not have good position to observe and judge the force to his front), the enemy's lead elements may deploy to engage. This buys time and allows the effect of surprise to be reduced.

(d) Pickets will rejoin their parent companies as part of the grand-guards position. *The purpose of the grand-guards is to slow the enemy by obliging him to shift from approach formation (probably marching by the flank if terrain allows) to line of battle*.[8] An approaching force will generally try to move as far forward as possible by the flank because of easier speed and coordination. The pickets will be too weak to hold the main force long, but can score some hits and cause delay and confusion in some cases – particularly in terrain favoring the defender – just by exploiting the confusion attending a shift from approach to attack formation. Once an enemy has moved into line of battle, he isn't likely to change that formation as long as he is under fire, a fact the pickets should take care to exploit.

Gordon Rhea's excellent book on the Wilderness contains some good descriptions of forces moving forward and engaging enemy pickets; "driving their pickets in" was frequently the first shooting phase of a battle. In the case of the Wilderness, advanced-guards and out-posts, etc., were absolutely essential because the terrain did not permit good observation and fields of fire. (I like the Wilderness because of its resemblance to the reality of Viet Nam – two vast armies stumbling around more or less clueless in a vast bramble bush.) Much of the Union heartache on the first day of the battle stemmed from Meade's hasty deployment and assault without proper flankers and advanced-guards (about which Warren complained bitterly); Reb woes on the second day resulted from Hill's unaccountable failure to place outposts to cover his corps, still disorganized from the previous day's battle. And Hancock, uncharacteristically, failed to use flankers to cover his assault on Hill. It was as if nobody had read Mahan!

As a general note, modern units will string a line of LP/OPs (listening posts/observation posts) forward. In addition, a division will frequently deploy its organic armored cavalry squadron (which includes an air cav troop) forward in a screen; a corps is generally blessed with a cav regiment for this noble purpose.

[8] Remember Buford at Gettysburg. His advanced-posts (which are called *vedettes* in the mounted service) picked up Heth's advance, fired a couple of volleys, and galloped off. The line of dismounted regiments (really an outpost line for the Army of the Potomac) forced Heth's lead brigade to deploy, then his whole division, buying time at each "click of the telescope." This is the way the outposts are supposed to work.

Here are the basic guidelines for establishing and maintaining the advanced-posts:

Upon arrival:

1. **Make a visual reconnaissance** of the area; familiarize yourself and key assistants with the nature of the terrain, including:

   Cover and concealment. Where can advanced-posts be placed so as to be hidden from the enemy, while still close enough to sentinel posts?

   Observation and fields of fire. How far can sentinels see from their posts? How much warning will they have when the enemy comes in view?

   Likely enemy avenues of approach. If the enemy comes, along what route will he likely advance? It is extremely critical that these avenues of approach be under observation (and that the grand-guards and pickets be positioned to delay). Likely avenues include roads and trails, draws and defiles, fields and fence lines. Think like the enemy: how would *you* approach?

> Tip: never use a likely avenue of approach (a road, a defile with cover, etc.) as a boundary between units. If, for example, two companies' outpost lines meet at a road, who is responsible for the road? Better to place key terrain entirely within one unit's front.

   Lines of withdrawal. If the enemy approaches, your job is to see him and report. Advanced-posts have got to be able to bug out under pressure, fall back on the grand-guards, and eventually merge with the pickets to form the delaying force. This means thinking in 3-D, seeing the terrain as a complex of military problems and opportunities. (See Appendix A.)

2. **Locate advanced-post positions** (usually squads of 4-5). These should be covered and concealed, as on the reverse slope of a ridgeline, so movements and cook fires will not be visible to the enemy. Remember: each out-post of squad size will provide *two or three sentinels*. (A larger advanced-post – section or platoon – can provide more.) **Note:** each out-post should know where adjacent advanced-posts are, in case they must provide mutual support, and to avoid getting into fire fights with each other and with the patrols that will prowl the gaps between sentinels. In addition, advanced-posts should include not only a cozy campfire and some shebangs. Under pressure, they must deploy to fighting positions in case the have to provide covering fire for the withdrawal of sentinels.

   A good thing to remember about the high ground is that it has three features that are key to positioning troops: The *topographic crest*, or highest point, where positions should not be sited because they are silhouettes and easy to see; the *military crest*, just below the topographic crest, where soldiers have good observation and fields of fire without being spotted easily; and the *reverse slope*, which is out of sight of the enemy to the front. A position just behind the military crest is useful because it can be used to provide cover for all but the shooting end of the soldier (we call this *defilade*). The Irish Brigade used this tactic

at the Sunken Road at Antietam. It is also useful for positioning artillery. Learn to use the ground!

After placing advanced-posts:

3. **Post sentinels.** Officer should post sentinels *personally*, and be accompanied on this task by all officers and NCOs who will be charged with relieving and inspecting sentinels, so they will know where to go without wandering aimless through the woods all night. Whenever possible, sentinels should be posted in daylight; if this is not possible, posts should be adjusted as soon as possible after first light.

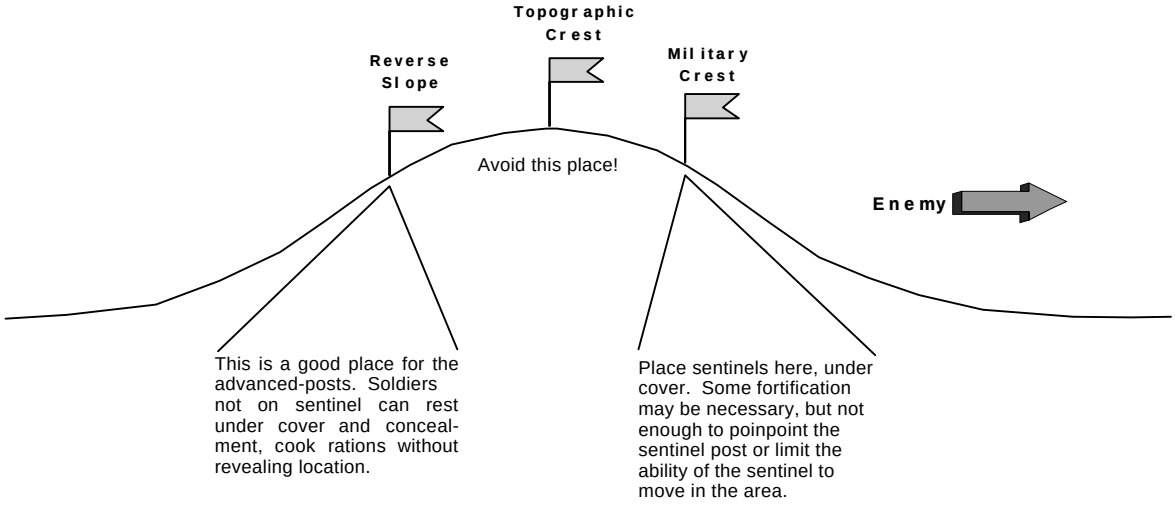


Figure 4: Ground features.

4. The posting officer should make certain that there are no gaps in the views of sentinels. All areas in the sector allotted to the unit must be under observation. In addition, sentinels should have cover and concealment at hand. It's important to note that sentinels during daylight man *observation posts*; after dark – when their visual observation is limited by ambient light – they become *listening posts*. That is, the primary sensory modality changes, and several things happen that affect the sentinels. Most important, the range of coverage of sentinel posts is greatly reduced after dark – we can see and hear clearly for a great distance, but the sense of hearing gives us much less precise information about the direction, distance, and source of an event. It may be necessary to tighten up the interval between sentinels after dark, which means more sentinels.

   Sentinels should carry their full field load — knapsack, blanket, etc. In the case of an enemy advance that requires the sentinels and advanced-posts to fall back rapidly, sentinels will not have time to retrieve their gear, and should hence carry the full load on post. This is a matter for the commander's judgment. NCOs at the advanced-posts (usually the corporal) should inspect sentinels to assure that they are properly equipped and that their equipment is secured to prevent unnecessary noise (e.g., dangling tin dippers).

   Sentinels, when first posted, should be instructed not to lie or sit at their posts (this invites sleep), and reminded of the procedure for challenging, particularly after dark. (When I was

young, there were 11 general guard orders that had to be memorized, from "I will take charge of this post and all government property in view" to "I will quit my post only when properly relieved," and including the ever-useful "I will be especially watchful at night, and during the time for challenging will challenge all persons on or near my post and allow no one to pass without proper authority." I expect the CW soldier had some sort of SOP at hand, but I haven't been able to discover it.) Tours should not exceed two hours in any case.

Sentinels should be briefed on what to do if anything unusual happens; their job is to report activity, not shoot at it unless it is the only way to alert the advanced-post.

An important point to remember: *A soldier on duty knows no one.* Even his closest pard needs the challenge and password.

5. **Inspect sentinels.** The officer commanding should personally inspect sentinels at least twice during the hours of darkness. He should be accompanied by a noncommissioned officer (no one should go stumbling around in the woods alone at night – you tend to lose lieutenants that way). This is one reason the officer should post the sentinels himself and be accompanied by NCOs when he does it – it makes it possible to run an inspection, not a reconnaissance patrol! The officer should verify that each sentinel is awake and alert and follows proper challenging procedure. (**Note:** If a challenge and password are used, sentinels should understand *how* they are used – up close, in a low voice, not yelled for everybody for miles around to hear. All challenges and conversation should be in as low a tone as possible, and *not* a whisper – on a quiet night, a whisper can carry a surprisingly long distance.) The inspection should not be conducted at the time sentinels are relieved – soldiers are generally most alert when they have first been posted and when they are about to be relieved.

6. **Relieve sentinels.** The responsibility for proper relief of sentinels rests with the officer commanding the advanced-posts; the authority may be and in the interests of efficiency generally should be delegated to the senior NCO. Responsibility cannot be delegated, however, and the officer should assure by spot inspections that the job is done properly.

   The officer commanding the advanced-posts and the NCOs supervising reliefs must understand that a soldier awakened from sleep at a campfire will suffer from two impairments. If he was in a deep sleep, he will suffer the grogginess of *sleep inertia* for about 20 minutes, during which he will typically be slow to respond, clumsy, and generally distracted. In addition, a soldier pulled from the vicinity of a campfire into profound darkness will have poor night vision. Adaptation will require about 20 minutes. Hence, it is usually better to awaken the relief at least 20 minutes prior to posting time. Take the relief *beyond the light of the fire* and let them shake off sleep inertia and adapt to night conditions.

   At relief time, the NCO should inspect the sentinels before posting (as in 3, above). The NCO should accompany the guard detail, verifying proper relief. He should also assure that there is food available for the returning sentinels, who will usually want to eat a bite before rolling into their blankets. Coffee should be available for those – like the officers and senior NCOs – who will be up most of the night doing inspections. The sentinels need their sleep,

and should be given coffee only *before* they are posted, not after when it will interfere with sleep. (Note: the caffeine in coffee takes about 20 minutes to start working.)

7. **Conduct *defensive patrols*.** Mahan stresses that gaps between sentinels should be covered by *defensive patrols* (offensive patrols are deliberate reconnaissances, discussed in the next chapter) to assure that enemy probes are not slipped between sentinel posts. In our case, the sentinels will be fairly close together; unless there is some terrain feature that prevents mutual observation and support, the inspections of sentinels can serve the purpose of the roving patrols.

   Whether and where to run the patrols depends on the environment -- ground, weather, and visibility. This is a matter that requires considerable judgment and experience. The trick is to identify "dead spaces" in the out-post line – placed that cannot be adequately covered by the stationary sentinels. A wooded defile, for example, can provide a handy avenue of approach for enemy patrols or probes but be a poor place to put a sentinel because he cannot see very far in any direction (and because a sentinel so isolated is likely to feel stressed). The patrol can cover that gap. Bear in mind that *patrols of the defensive kind – covering gaps -- are generally conducted at night* (see section on patrols in general), and their frequency and importance under night conditions depends on the nature of the ground, the level of luminance (bright moonlight, heavy overcast, etc.) and ambient noise (listening posts can't hear enemy probes very well in the rain, since the background noise masks the sound of feet stepping on leaves and twigs, as well as whispering).

   The commander should bear in mind that he must balance aggressive patrolling and number of sentinels against the unit's sustainable assets. People have to sleep. If you are going to be manning an out-post line for a week (unlikely in the hobby!), night time entertainments must be balanced against the capacity of the unit for sustained operations. I emphasize the difference between what the modern Army calls *sustained* and *continuous* operations. In continuous operations, everybody keeps awake and operating; in sustained operations, the *unit*, not every individual, stays in operation. This is particularly important for reenactors because weekend hobbyists are not conditioned to the wear and tear of continuous/sustained operations. In addition, the campaign-style drills will include daylight operations as well as night, and it is unwise to wear people out with a weekend of drill, then expect them to drive a long way home.

Appendix A includes a more detailed example or the planning and establishment of advanced-posts.

VII. Reconnaissance

1. The problem of patrols

Offensive and defensive patrols are mentioned specifically by Mahan and Butterfield, as well as in primary and secondary books and memoirs; however, they are not covered in as much detail as were conventional tactics. This has led some students of the Civil War to ignore such special operations, or to presume that they were unimportant or done without any finesse or science.

This isn't true. They are not described in detail in histories because they did not, of themselves, make history. They sometimes set up the big battles, but it is the fierce line engagements that got the "press." This doesn't mean the U. S. Army ignored patrols and other small operations; in fact, these techniques had always been a big part of Army doctrine.

The reason is simple when you consider it. The history of American military operations from earliest colonial times to the Civil War had been, with few interruptions, the story of small-unit operations against Native Americans. Historically, only the most recent Indian fighting had been anywhere but in the Eastern and Central woodlands – dismounted infantry operating in small units against small groups of tribal warriors who used similar arms and tactics. The Colonial forces and their heirs in the United States Army probably had the most comprehensive doctrine for small-unit actions going, because we were the ones with the critical need for it! Units fighting in America even before the Revolution had not only methods for operating in small detachments, but created special units to take maximum advantage of carefully-crafted tactics learned from the Indians or through evolved experience.

In the Viet Nam War, every combat soldier carried in his wallet a printed card with the standing orders of Rogers Rangers, first set down in the French and Indian War, and just as true in the 1960's as they had been in the 1750's. Crusty Major Rogers even invented the long range patrol, inspiring military thinkers like Orde Wingate 200 years later.

2. Offensive and defensive patrols

We deal with two kinds of patrols specified by Mahan – *defensive* and *offensive*. The first describes roving patrols that cover gaps between sentinels, particularly at night; this kind is dealt with in the chapter on the out-post line. In addition to the routine patrols to cover outpost gaps, you may be tasked to conduct a reconnaissance – an *offensive* -- patrol to learn more about the enemy and the ground to your front.

However, there is a trap hidden here. Patrols in the days before rapid-fire weapons tended to be of a different sort from those common today. Trying to replicate a modern combat patrol is not only unrealistic, but usually a recipe for disaster. The reason is, a small group of modern soldiers can deliver a great deal of fire and do a lot of damage in a limited area. A reconnaissance with muzzle-loading rifled muskets can't.

In essence, a dismounted patrol probably functioned as an armed escort for a reconnoitering officer, who was probably a staff officer. Cavalry patrols might simply be launched down roads or over open fields in whatever strength was available or appropriate. In open country, cavalry was generally a superior instrument for reconnoitering, since it could report news faster than dismounted troops without radios; in any case, cavalry's principal mission was gathering information. In country unsuitable for cavalry due to thick vegetation, very broken ground, or

other obstacles, or to gather information to the immediate front by units that had no organic cavalry, infantry had to do the job.

Now, an infantry patrol might be something as simple as pushing pickets forward until they made contact. This is a simple way to locate an enemy to your front, economical and effective if somewhat unpopular with the pickets. Patrols might on some occasions be used to infiltrate the enemy positions, either to gain information or to support an attack; however, this was very risk and rarely used in the way modern patrols commonly infiltrate, recon, and raid.

The watchword in the Civil War was very likely "keep it simple." That's how I will treat the problem here.

3. Day or night?

I have frequently seen patrols sent out at night to probe enemy positions or gather intelligence, or just because the reenactors get restless. This usually leads to a fiasco, because the result is usually a lost patrol or a pointless firefight with impossibly slow-firing weapons. Night offensive patrols can be used, and were occasionally used, but only when this is the only practical solution. On the other hand, defensive patrols are used almost exclusively at night, for the same reason offensive ones aren't – because vision is reduced.

Use night dismounted patrols only when the mission demands (for example, you have been told after dark to probe the enemy pickets with the idea of determining whether they have pulled out under cover of darkness).

4. Planning and executing a reconnaissance

Generally a reconnaissance will occur because the commander wants to know some specific bit or bits of information. A reconnoitering officer will be chosen (lucky soul – this is why God made lieutenants!), his rank and experience probably proportional to the urgency and gravity of the information than must be obtained, as well as the level of experience and technical expertise required. If a patrol is to scout a ford, for example, an officer familiar with techniques for assessing fords (an engineer who understands soils and trafficability factors, for example) might be the officer in command. If the objective is to scout a route of advance, a topographic engineer might be selected. If the mission is to move forward to contact with the enemy, some poor assistant adjutant whose manner or face annoy the commander might get the nod.

When you have been honored with responsibility for conducting a reconnaissance, there are some things you might profitably do.

a. Make a preliminary reconnaissance. This may be a map reconnaissance (not very helpful with typical era maps) or a look-see with field glasses; but whatever the method, it should allow you to get a mental picture of the ground. Make a sketch map. If there is a guide provided, grill him until you have a grasp of where things lie. Focus on *key terrain* (for example, ridge lines, streams, roads) and *landmarks* (buildings, crossroads, clumps of trees). This information will allow you to:

- choose a covered and concealed route to the objective, if there is one;

- identify reference points such as rally points; and

- navigate. Some modern units have oftimes used the negative incentive of the "Fugawi Award" – a presentation, usually awarded near the end of what is amusingly called "happy hour," to honor the member of the unit who most epitomized the example of that hapless and forever lost Indian tribe, the Fugawi (as in "Where the Fugawi?"). [9]

b. Develop a plan. This includes a route and scheme of maneuver, manning, and other basic requirements.

c. Write and brief an order. Mahan didn't have the form of a "five paragraph field order," but this more modern method makes it easy to organize the order you will give to the patrol without making significant omissions:[10]

- **Situation:** What's going on, in the sense of explaining why we're going on a reconnaissance, including (1) enemy situation and (2) friendly situation. In the case of a reconnaissance patrol, we're a little sketchy about the local facts of (1) or we wouldn't be reconnoitering.

- **Mission:** What *we're* going to do, as in "find out whether the enemy is present in strength along Jerusalem Plank Road to our front."

- **Execution:** How we're going to do it. This consists of (1) a *concept of the operation*, which is a general statement of what we're going to do; (2) a *maneuver plan*, which in this case is the route we're going to take to and from the objective; (3) a formation or *order of march*, which will usually be a file or column for a small unit, sometimes spread into skirmish line (that is, where everybody will be as we move); (4) *actions moving to the objective*, which usually involves navigation ("when we reach the crossroads, we'll angle left towards the old barn"); (5) *actions at the objective*, which for a reconnaissance patrol is usually "lie up and hide while the officer peeks around;" (6) *actions returning from the objective*, which usually details the route back to our advanced-posts, usually different from our route getting to the objective; (7) *actions on enemy contact*, which I'll discuss separately; (8) *passage of lines*, which is the procedure for getting back without being shot up by our own sentinels (everybody needs to know this cold – you never know who will actually make it back).

  Action on enemy contact is critical. Every member of the patrol must know what to do. Just about any action the patrol encounters means aborting the patrol, since the enemy has located you and will soon be galloping around in overwhelming force, trying to scoop you up. As you move forward, the reconnoitering officer should designate *rally points*, which is where the patrol should gather if it is necessary to execute what the French call the *sauve qui peut* ("Let him save himself who can") – that is, the patrol has to scatter and gather again at some safer point. This should be a place that is easy to find but not so

[9] In our company, we prefer the Ambrose T. Burnside Award, honoring that member whose performance, despite best intentions and praiseworthy energy, has resulted (metaphorically) in a large, smoking crater.
[10] The last of Rogers Rangers Standing Orders from the French and Indian War: "Don't forget nothing."

obvious the enemy will occupy it first. As the patrol passes a likely place, the reconnoitering officer should point it out as the rally point. Everyone in the patrol should note its location. I'll discuss this in more detail.

- **Administration and logistics:** When will the patrol be inspected? When will it start (start time meaning "pass our forward sentinel line and enter Indian country")? Who will be in command of the advanced-posts while the reconnoitering officer is gone? What should everyone carry with him (e.g., "40 rounds of ammunition, light rations, no knapsacks")?

- **Command and signal:** What is the chain of command *down to the last man*? Are there any hand signals we need to know? Is there a challenge and password for crossing the sentinel line?

d. Coordination. In general, patrols will come from the reserve (pickets or grand-guards) rather than from the out-posts, since using the people manning the forward positions would strip that section of the advanced-posts. Patrols are best prepared and launched from the rear. Since you will have to depart by passing through the lines (as well as return, if you do your job right!) it is necessary to visit the company commander through whose sector you will pass each way. In addition, your own commander needs to know your plan, since he may have to help you out of a scrape.

In addition, you should apprise yourself of plans for any other patrols in the area. There may be an accidental collision; if you know there is another patrol out there, it gives you reason at least to verify friend or foe.

e. Movement to the objective. In general, a patrol conducted in daylight will take a covered and concealed route if one exists. An infantry patrol usually moves "through the green" (that is, in the woods) when possible, making use of cover, concealment, and **defilade**; after dark, in the open unless there is bright moonlight. (**Note:** This is one area in which there doesn't seem to be as much standardization of small-unit patrol techniques in the 1860's as in our own time, when small-unit actions are much more common. The things I'm suggesting here are drawn from Field Manuals and common sense to point out things CW soldiers would have learned from experience.) If in the open, bounding skirmish drill would be appropriate – that is, half move forward while the other half "overwatches", then leapfrog. (If the patrol is larger in size, simple movement by the flank will usually work, but *only* if the size of the patrol is large enough to deliver coordinated fire.) This keeps everybody from being caught in the open at once. Since this procedure was common in skirmish drill of the period, I'm willing to presume it was used for reconnaissance in enemy areas.

f. The *coup d'oeil militaire*. An experienced company-level officer will learn to be very attentive to his situation, always looking for possible advantage and wary of trouble. Eventually, if he survives long enough, a sort of sixth sense for trouble and opportunity will develop. Spotting a likely **ambuscade**, for example, is based on a carefully nurtured sense of what you would do if you were the enemy. A road or stream crossing may

expose you to direct observation or place you in a momentarily vulnerable position. How can you avoid it or reduce the risk?

In addition, no matter how thorough your preliminary reconnaissance, you will find quirks of terrain and unexpected factors that could not have been anticipated. You must have a careful plan, but balance it with room for flexibility if the situation dictates.

This is all easy to say, and hard to do. Again, that's why we make so many lieutenants – some of them are bound to learn!

g. Actions on the objective. In a reconnoiter, the "objective" is usually the last covered and concealed position before what you're there to recon. A reconnaissance is conducted to take notes, not kick butt. Again: in a typical CW patrol, I suspect the patrol itself is intended principally to provide security for the reconnoitering officer. At the objective, the soldiers of the patrol should take concealed positions (if available) and let the RO do his job.

h. Actions on contact. If you're beyond your own outpost line, there is always a chance of finding the enemy prematurely. This usually means the reconnaissance mission can't be fulfilled, and in any case you've verified enemy presence – the hard way. If the enemy force is smaller or roughly equal to the patrol, just move in retreat using skirmish drill. If you managed to stumble into a large force it becomes critically important to disengage and get back, as presence of a "large force" is a flash priority piece of news. If the enemy is pressing you hard and bounding skirmish drill is too slow, the RO has the option of just yelling "RALLY!" At this point, the patrol just executes the ever-popular *sauve qui peut* and moves back as individuals to the rally point with tails high. This isn't specifically in Mahan, but I suspect they did something like this.

i. Passage of out-posts. You will have to return through your own out-post line. The sentinels and advanced-posts should know roughly when and where you will be returning. Nothing spoils a reconnaissance faster than being lit up by your own pickets.

j. Debriefing. Whoever sent the reconnaissance out will want a thorough debriefing. Of course, it's always possible that the recon will return at a gallop with Jubal Early and eight thousand howling Rebs on their tails, in which case the debriefing can be postponed. Written notes are helpful (every officer and NCO in the Army should habitually carry something to write with and something to write on). Get it clear, get it right. Develop a sense of the *essential elements of information* (see chapter on intelligence) for the reconnaissance, and make sure those are covered.

k. Patrol tips. Here are some fine points of patrolling. They don't appear in the scant official literature of the Civil War, but were apparently around. Most are consistent with personal experience in combat. If you are given the task of infiltrating the enemy positions – rare, but not unheard of even in the Civil War – these ideas might be helpful.

a. **Alertness:** All members of a patrol should be watchful – there is no thing as too many ears or too many eyes when you're probing the enemy. Once you cross your own out-post line and head into uncertain ground, the threat is in all directions, and that is where you should be looking. When moving in file, it is often useful to alternate area of attention: the first soldier scans the ground ahead, the following soldiers scan left or right, alternating.

b. **Scanning the ground:** When you walk, use a regular pattern of visual search. I usually look directly in front to detect any obstacles I might trip over, then forward, left, right, and center, then repeat. If you look at the ground all the time, your first sight of the enemy may be a rifle muzzle and an evil grin; if you ignore the immediate ground, you will be tripping and getting tangled in low branches and "wait-a-minute" vines.

c. **Move slowly at night – "Indian stuff."** Night-adapted eyes are very sensitive to rapid movements, particularly if they are caught out of the corner of the eye. (Your author has done a lot of research in the psychophysics of vision, but he hadn't been to grad school in the 1860's – this is just "folk wisdom" that happens to be correct.) Especially in the likely presence of enemy sentries, move slowly and deliberately, and watch where you step (see below).

Walk quietly. In the presence of the enemy or at night, step toe-first. This lets you crush leaves and twigs instead of snapping them.

Move safely. Undue haste at night can disclose your position by noise or sight, and is dangerous. Anyone can take a nasty spill moving off-road in the dark, with risk of accidental discharge of a weapon. The first soldier in line can easily suffer an eye injury from a low branch. Clear eye-level obstacles with the musket or, better yet, with a free hand swishing slowly back and forth in front of the eyes. If there is obstructing vegetation, cooperate and look out for your pards. As you walk through brush, move slowly to avoid striking limbs or getting tangled in vines and scrub. If you detect a branch or vegetation obstacle, hold it for the man to your rear. Above all, to not let it swish back and whisper "watch out!" after you hear his squeal of pain; such carelessness may alert the enemy, cause injury, and annoy a pard. The first detectable sign of an undisciplined, inexperienced patrol is often a low chorus of muttering and cursing.

Halt occasionally to listen and watch. Your own movement creates a "blind and deaf" zone within which your own actions and noises mask subtle signs of the enemy. At the halt, move carefully into a kneeling position and *listen*. At night you will hear enemy activity long before you see it.

If you detect an enemy patrol, lie low until it is out of hearing, then proceed. If you spot an enemy sentry (before he spots you), halt a moment in case he has been alerted by your noise (after a few minutes, most sentries will decide it was a false alarm and will slip back into whatever undead state they previously

enjoyed), then slowly retire a distance and try a different infiltration point.

d. **Crawling:** If you must cross a narrow open area of place where you may be exposed, the terrain or vegetation may permit you to move concealed by crawling. I don't wish this on any reenactor, but you may be tempted to this extraordinary tactic.

   First, understand that crawling takes *much more energy* for a given distance than walking or running. You wouldn't believe how much more. Crawling is hard work, and not for the out-of-shape. It is also likely to make noise if not done properly, which means slowly and deliberately.

   The best style is the *low crawl*, but we can fudge a little. Since you will certainly be carrying a weapon, you will have to cradle the musket across your arms *with the lock plate up*, pushing salamander-style with your elbows and knees. Your stomach should be in contact with the ground or close to it. Try doing this in your yard, and you will quickly learn (a) how hard it is to crawl a long distance, and (b) how easy it is to convince neighbors you have lost your mind.

   Finally, be very, very careful to avoid pushing the muzzle of your musket into the ground and pick up foreign objects. **And never, NEVER crawl with a capped musket, or with the muzzle forward.**

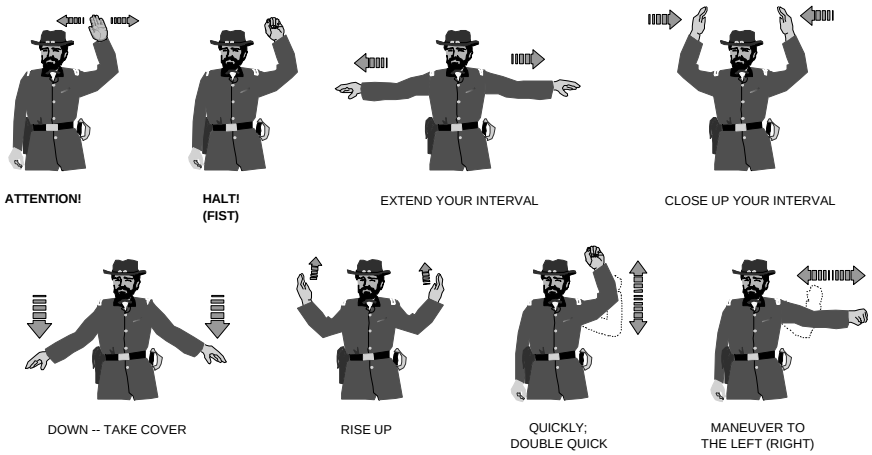
e. **Communicating:** During daylight, use hand signals (see below), or gather key patrol members in a clump to give orders that can't be expressed by hand signals.

   At night, speak in a low tone of voice – do not whisper, as a whisper can be heard an amazingly long distance on a still night.

   Do not attempt to communicate using animal calls. We've managed to kill off just about all the critters that used to make familiar noises at night, and the ones that are still around usually shut up when people are near; all you will do is attract attention and tell friend and foe alike where to find the nearest idiot.

f. **Be aware of the situation:** Especially at night, know where your nearest pards are. It is very easy to get split up at night. Just as important, pay attention to the patrol order and try to keep in mind where you are and what you are doing; don't just plod along in a daze. The reconnoitering officer hasn't got time or opportunity to re-brief you at every critical point.

ARM AND HAND SIGNALS



These signals are adapted from modern practice. Soldiers undoubtedly used some system like this for small unit reconnoitering.

g. **Keep accountability:** If you're in the chain of command, *know where your people are*. A good way to do this at night is to "pass the count." The first man in line starts the procedure by saying (quietly) "one"; each man in the file repeats his successive number until it gets to the last man, who starts again with "one," passing the count back to the front. Since the officer probably knows how many people he has, a discrepancy in count will be obvious. Of course, any patrol will have one or two zombies who miss the count or do it wrong. If the count comes up short, halt the patrol and verify you have everybody. If you have more than you started with, it might be a good idea to inventory anyway, in case you've picked up a hitchhiker! Make a final count when you pass through your lines at the end of the patrol.

[NOTE: This practice is *extremely important* if you are doing this at reenactments. If someone comes up lost, the action may have to be halted until he has been located. I have no source indicating they did it then, but it's a good idea anyway.]

h. **Shut up:** Green troops are nervous and cover their uneasiness by chattering. This has no place on a patrol. NCOs should be spotted through the patrol formation to keep things smooth and quiet.

i. **Use the terrain.** This sounds simple, but isn't, particularly when we move from the world of stand-up fights into the shadowy realm of patrolling. The overwhelming requirement for a reconnaissance patrol is *stealth*, and we soon have to deal with the fact that cover and concealment and observation and fields of fire can conflict.

Scouting a place or finding the enemy? In general, the better we can see our

surroundings, the more easily we may be seen. It may be tempting to scramble up to the crest of the nearest bald hill for a look around, but this may invite an early and unhappy end to our adventure. Daylight patrols, which are usually run because we have to be able to see for a distance to learn what we need to know, are usually best routed through covering vegetation. But that covering vegetation, while it hides us, also blinds us – the easier it is to hide and survive, the harder it is to accomplish the mission, and vice versa. Recall that when our mission is to check out a specific *place*, the usual trick is to get to the nearest covered and concealed position and observe, or perhaps send out a small scouting party to check it out. In such a case, the priority is to get to that position without being detected.

But what if the mission is to find the *enemy*, not check out a spot or spots on a map? The enemy will be where the enemy is. This argues for a route that will afford observation.

Most of our maneuver areas in the hobby are at least partially wooded, and laced with streams, walls, fences, and roads. These will dictate our routes and our actions. For example, walking across an open field in the daylight will expose us to detection; we may have to take a more roundabout route to maintain cover.

Given this, it is well to recall that the enemy faces these same problems. If there is only one concealed route for us, it is probably the only one for the enemy as well! This is at once a problem and an opportunity.

The problem is avoiding detection by enemy patrols and out-posts, which may well be routed or posted to prevent us from passing freely through the area. We need to proceed carefully and slowly, night or day.

Tracking. The opportunity is that we can make educated guesses about where to look for signs of enemy activity. Troop movements leave unmistakable signs that don't require a skilled tracker. For example, a good way to detect signs of enemy movement is to find a stream and follow it upstream for a distance. While signs of troop movement are hard to detect on dry ground, it doesn't take Daniel Boone to find a spot where troops have crossed water – tracks and roiled water are inevitably left behind. "Stream tracking" means traveling along the low ground, but if you take reasonable precautions against bushwhackers this can be an advantage. Traveling in a stream draw keeps you out of sight and muffles the sound of your passage (the soil and vegetation on each side absorb noise and the sound of a running stream may mask it).

(If there are tracks and the still water is muddy, the crossing was very recent. If the water is moving and there is still mud in it, tiptoe away *very* quietly.)

On the other hand, you may decide to occupy the high ground overlooking a draw and watch for enemy movements (they may have the same idea as you!). This is a

sound idea at night, since sitting on the edge makes noise of movements a little easier to detect (you are outside the acoustic shadow of the slopes).

Remember also that draws cut by streams tend to run *from* the higher ground (note which way the water runs!) and may constitute avenues of approach that may be usefully watched or, if you feel lucky, used.

More "Indian stuff." On the general theme of "follow seegar smoke, find fat men there," store away the following tidbits:

Tracks in moist ground can not only tell you someone has passed, but give some hints as to *when*. A fresh track will have an edge of dirt particles around the edges. Within a day, this little parapet will settle and disappear. If the track has those edges (try it yourself; I can't describe it adequately), it is less than a day old.

Discarded white paper (e.g., a letter from home, a cartridge paper or pack) will turn yellow outdoors within 48 hours.

j. **Maintain strict fire discipline:** Do not discharge weapons, particularly at night, if it is possible to avoid it. A small unit carrying single-shot muzzle-loaders cannot generate enough fire to serve any useful purpose except to mark its position. At night, there is really nothing to shoot at; in daylight, a situation requiring fire is a situation best treated by a "rally."

Ignore provocation. Sometimes enemy pickets will fire at night, either out of nervousness ("shooting trees") or in an attempt to make intruders fire back and disclose their presence and position. Ignore them, and take advantage of the fact that the enemy picket has spoiled his night vision (see "physiological facts," below) and made his ears ring, masking quiet sounds of movement.

k. **Stow your gear properly:** Make sure you don't have loose gear rattling away – the enemy will hear a dangling tin cup at night as far away as Cincinnati. Button your sack coat to cover any white shirt collar underneath. If you have a new white cotton canteen strap, darken it. Tighten your musket sling so it doesn't rattle; tie it off if you have to. If you are an officer, lose the white leather gauntlets. Do not wear white canvas gaiters. Things like this are a dead giveaway (literally) at night.

Leaders: Inspect your patrol before departure. Identify anything that might make a soldier more visible of audible. Make each soldier hop up and down to detect sources of rattling. Careful attention to details can make a difference – I have seen a battalion approach within fifty yards of enemy positions just before dawn *at a reenactment* without being detected.

[**NOTE:** I find no reference suggesting soldiers blackened their faces, or that they applied leaves or other camouflaging devices, and suspect it wasn't done. It may have been considered unmanly, or maybe faces were so dirty after a few weeks of

campaigning it was thought unnecessary.]

l. **Carry weapons muzzle-up:** This is for two reasons. First, the powder from a loaded blank will trickle out on the ground and cause a misfire if you are obliged (God forbid!) to shoot at something. Second, stumbling around with muzzle down increases the risk that foreign objects will be lodged in the bore. It is best to carry your weapon "arms a-port" (modern "port arms"), across the chest. This keeps the muzzle up, helps avoid noisy entanglement with branches, and the weapon can be shifted easily from port to an offhand firing position.

Protect the man ahead and behind. As a safety measure, never point the muzzle steeply forward or back when traveling in file, particularly at night. It is too easy to stumble and discharge the piece at close range.

At night, carry weapons loaded but UNCAPPED to prevent accidental discharge at close interval. Don't worry about slowness of fire. If you have to fire on a reconnoiter you're probably doomed anyway, and simply bringing hammers to full-cock will signal your presence to anyone listening.

m. **Maintain security at all times:** In daylight, use a small advanced-guard and rear-guard, as well as flankers if the cover is close. At a halt, stay in cover and put out small out-posts.

n. **Physiological facts:** At night, for any kind of patrol, soldiers sitting beside a fire will need to regain night vision before they start. This takes about 20 minutes sitting around in the dark. A patrol that has lost its night vision will stumble around dangerously. This is another good reason to avoid getting into firing situations at night – black powder muzzle flashes close to the face will destroy night vision for 20 crucial minutes. Don't fire idly if you're a sentry, and if you're on patrol, don't return fire unless ordered. If the enemy has compromised his night vision, and you haven't, the advantage is yours. (Plus, it would be hard to hit anything in the dark with a single-shot weapon anyway.) **Remember:** lighting a pipe or a seegar in the dark will mark your position and cost you 20 minutes of night blindness!

Allow for adaptation time. If the patrol is awakened from a sound sleep to get ready, the soldiers will suffer from the severe grogginess of "sleep inertia" for about 20 minutes. If you want to stir their souls with coffee, remember (1) if they're by the fire filling their cups, it will take 20 minutes to dark-adapt, and (2) it takes 20 minutes for the caffeine to act. Just remember "20 minutes" as the golden rule!

Make use of fatigue and time of day. Although circadian physiology was unknown in the 1860's, armies did understand quite well that people are least alert in the early hours of the morning and in the mid-late afternoon. The hours between midnight and five AM are best for probing an enemy at night – sentries

are most likely to be groggy, unmotivated, or asleep. (Remember this defensively, too – your own defensive patrols should be most active during this time.)

o. **Carry no written information of intelligence value:** You may be captured, and there's no reason to make the enemy's job easier.

p. **If you are challenged at night, freeze and lie low.** Just because somebody yells "*whooooo's there?*" doesn't mean you've been conclusively spotted. If you stay very still and don't respond, the sentry or other observer may decide it was a false alarm.

   Never drop suddenly to the ground if challenged at night. Freeze and, if necessary, crouch down very slowly.

VIII. Using Cavalry

One invariable feature of large reenactments is the general misuse of cavalry. Commanders seem at a loss over what to do with the cav except to send them off somewhere to "do whatever it is they do." Although waste of cavalry is historically accurate in a perverse way, the failure cheats the spectators, robs the hobby of depth, and really annoys the mounted arm. It's time to correct this deficiency.

How does cavalry differ from infantry (the other maneuver arm)?

First, cavalry has the *capacity for rapid movement*. *Duh*. The average *sustained rate of march* for cavalry is slightly higher than for infantry, and the short-term bursts of speed are much higher. This allows a commander to shift combat power rapidly across a battlefield or a battle theater.

There is another side to this mobility, however, as any horseman will tell you: it is fragile. Horses need more maintenance than infantrymen, and are more prone to maintenance "down time." Under many conditions, a seasoned infantry force can, in the long stretch, outmarch cavalry. Cavalry can't simply gallop all over the landscape at will without paying a price. In addition, the logistical "tail" for cavalry is more complex than it is for infantry.

Second, cavalry, unlike infantry, has a *limited capacity to take and hold ground*. Cavalry can burn bridges, tear up track, scout, execute economy of force missions, provide security, protect lines of communication, and fight other cavalry. Securing and defending a piece of key terrain for a long period isn't a reasonable cavalry mission – it doesn't have the firepower or the sustainable logistical tail.[11] This is particularly true in the Hobby, where mounted cavalry is a rare resource. (I exclude permanently dismounted reenactor cavalry from this analysis – they are essentially infantry.)

How, then, should a commander use his available cavalry resources?

1. **Security**. Cavalry has an enhanced ability to find the enemy without getting decisively engaged, as well as faster movement. This makes cavalry very useful for advanced-guard missions. An advanced-guard entirely foot-mobile is likely to march into an ambuscade or get heavily involved with the enemy without wishing to. In addition, an advanced-guard or flank security force may be required to execute small side missions that can slow the overall rate of march and delay the main force or leave it blind. Mounted troops can sneak and peek, scout down side roads, and do other necessary things without getting delayed.

   River crossings and other difficult operations that involve getting a main force over an obstacle (that is, through a place where it can't deploy) are made a great deal easier with mounted security. Cav can be deployed forward in shorter time than infantry. Given the strengths and weaknesses of each arm, you might consider throwing forward a cavalry

[11] Modern armored cavalry is different, equipped more like a heavy assault force. In defense, old-time oat-burning cav is more like modern airborne or airmobile infantry or, in particular, air cavalry – fast and mobile, but fragile.

screen and using the infantry advanced-guard to establish blocking positions to cover such a move.

A word here about using cav as rear area security: don't. This is a personal prejudice, resulting from trigger time as commander of a cavalry troop (diesel cav, not oat cav, but similar mission and mentality!). Using cavalry to secure your rear is based on the concept of providing *area security*. "The rear" is a very big area, and not all of it is critical. If you spend scarce cavalry resources on rear-area security, you won't have what you need for other missions.

If you choose to employ cavalry to guard critical points (like the baggage train) in the rear, it's a total waste. Infantry can do that just as well as cavalry, since it's tied to a particular place anyway! This waste of resources drove Sheridan to the brink of insubordination in 1864. It represents a collapse of critical thought on the part of the commander.

A detachment of cavalry is also very handy to provide mobile headquarters security and to make backup couriers available.

2. **Reconnaissance**. By the 1860's, this was the major mission of the cavalry. While cavalry lacked the firepower and mass to engage infantry except as a target of opportunity, it was effective at finding the enemy. Of course, if both sides use cavalry effectively, it often means they find each other's cavalry!

   Offensive reconnaissance is usually considered separate from simple mounted advanced-guards. In actively finding the enemy, cavalry can be used in large or small units scouting ahead – following major routes, checking out road junctions, probing any area trafficable to mounted troops. The limitations are evident from the debâcle at the Wilderness, where the cavalry guarding the flanks and performing route reconnaissance could not communicate effectively because the dense second growth slowed mounted movement to less than the speed of foot. Once the cavalry arm was free of the Wilderness and debouched into the green fields beyond, the mobile units regained their strength.

3. **Economy of force**. Cavalry can relieve infantry for the main effort, provide demonstrations, and execute delaying actions, diversions, and other missions that do not require a lot of mass. Useful for screening flanks and covering gaps between infantry columns marching in parallel, where terrain permits.

   For example, cavalry in the reserve can be shifted and dismounted to establish a blocking force if the enemy threatens to disrupt your plan. This is far superior to frittering away your infantry assault power on secondary missions, and is tailor-made for cav (plus being a great training opportunity). However, this use is impossible unless you are willing to dismount and fight as infantry – mounted cavalry cannot defend a position because of its exposure.

A final note. Griffith (1987) takes the uncommon position that American use of mounted forces in the Civil War was hampered by a reluctance to employ heavy cavalry in the assault. While this is probably true in exploitation and pursuit (in which we generally didn't excel), it is a peculiar example of Griffith's sometimes conflicting biases. He tends to criticize American practice as being "too Napoleonic" or "not Napoleonic enough" – the latter where cavalry is concerned – as the situation warrants. Historians can't have it both ways.

Use of heavy cavalry in dashing charges is a practice that is hard to justify for the very reasons that frontal infantry assaults are risky – improved accuracy of ordnance. However, Griffith's real target seems to be the admitted lack of enthusiasm of both armies in pursuing a defeated enemy. His infatuation with Sheridan's swift exploitations in the Valley in 1864 and in the Appomattox campaign may mislead the reader as to his actual position – these campaigns were conducted with infantry support against a relatively weak and exhausted enemy, which is exactly where it is best employed as an attack arm.

Where he argues that cavalry should be thrown directly against an enemy, he generally refers to a lack of the concept of an elite exploitation force in American practice, held out until the exact moment of decision. Arguments can be made either way in our efforts to isolate The Truth.

What he does *not* mean is the practice of flinging heavy cavalry at the enemy and letting them slug it out against organized ground troops, as both sides did at Waterloo with results that provided less military success than it did a subject for painters in the years after the shooting – and the screams and moans and whinnies of the wounded – finally died down.

IX. Intelligence

Yeah, I know: military intelligence is an oxymoron. Laugh, get it over with, and then pay rapt attention.

Outposts and patrols exist to provide information, not to take and hold ground or to close with and destroy the enemy. If you don't provide information – even if it's just "look out, the Rebs are coming!" – you have failed in your mission. Never stop searching for information that will be helpful. You may be ordered to provide sketch maps of terrain to your front, find a ford over a deep creek, decide whether the main road is firm enough to carry artillery without miring to the axles, and -- always – to locate the enemy. You may be told to push outposts forward to contact (always entertaining!). Along the way, there may be dozens of bits of information that, taken together, paint an informative picture of what is going on.

Combat intelligence consists of "essential elements." Some things – the lay of the land, the location of the enemy, etc., are universal; some elements may be critical at a given moment, and these will usually be provided for you by the commander or his staff. "Who is to my front?" is a common plea to reconnoitering officers. "What does he plan to do?" is another. Here are some examples and discussion:

1. **Terrain intelligence – finding and describing the "good ground."** With respect to the terrain, you must assess the value of all you can see – your whole outfit may have to take it soon, and it's helpful to know how it can best be used and how enemy terrain advantages can be negated. Again, the "Holy Trinity": *cover and concealment, observation and fields of fire,* and *avenues of approach.* Nowadays, we are supplied with excellent maps generated by years of geographic surveys or by super accurate satellite photos. In those days, maps were nowhere near as rich in detail, and a great deal less accurate. Modern topographic maps have contour lines, accurate depiction of vegetation and manmade structures, and other conveniences; in the 1860's the maps were artistic on occasion, but much more rudimentary. If you can scope out the ground, your own observations may be critical to the army's success. If you're manning the outposts or running the patrols, *you are the eyes of the army*. Your big chance for stardom – don't blow it!

   Make a sketch map (Appendix B). The reconnoitering officer's map should be as clear and accurate as he can make it, because somebody else will eventually have to interpret it and convey its information to others. If possible, anchor the map on a feature – a crossroads, a stream junction, a known farmhouse – that is a known, fixed point. If landmarks (like a mountain top) are quite distant, pick two and estimate the angle of observation between them. (If you have a compass, it would help; if you only have an angle [other than 180 degrees!] the engineers back at division can triangulate to find your location, and index your other scribblings to that known point.

2. **Sizing up the enemy.** We always want to know: Who is the enemy? How strong is he? And what are his intentions? These always require a little or a lot of inference, much of which will be done back in the rear where a lot more contextual information is available.

For example, division may want to know if the Reb I Corps has arrived during the night by forced march. The best way to find this out is to snatch a prisoner, but this isn't always practical. There are other ways. You can ask local civilians (who may spit in your face, but it's worth a try – there are a few Unionists, even in Virginia). You can examine fresh bodies (look at their buttons – many states had unique buttons that can identify parent organizations), search for documents. If your patrols find a campsite, look at the trash. Are there broken up ammo boxes around, or evidence they were used as firewood? Are there paper cartridge packs lying around (both indicate that the soldiers who camped there were recently resupplied with ammunition, often indicating offensive action). Has anybody left a letter from home lying around? (Don't be shy – look at the address!) How cold is the fire?

Outposts are sometimes in close proximity, and sometimes have chats across the lines. If you yell over to the other side: "Where you come from, Johnny?" he may yell back "outa bed witch-yer old woman, Yank!" Or, he may say "North Carolina!"

Appendix A – Principles of Terrain Analysis

292…Requirements of a very high order, in the departments of geography and statistics, are indispensable requisites; to which must be assessed a minute acquaintance with topography, and a good coup d'oeil militaire for that of the latter.

308. A general view of the ground must first be taken in, so as to obtain some notion of the forms of the parts, their connection, and relations to each other, before going into a detailed examination. To one possessed of some topographical knowledge, this study of what is before him will not demand much time.

Mahan rightly emphasizes what students of the military art in those days termed the *coup d'oeil militaire* – the "military stroke of the eye." This refers to the ability of an experienced and skilled[12] commander to size up the nature of the terrain at a glance and turn it to best use. This is of inestimable value to any soldier, but particularly for advanced-guards, advanced-posts, and other economy of force missions. The reason is that small units operating independently, then and now, are very vulnerable to overwhelming enemy force if it can be brought to bear with skill and surprise. Adroit use of terrain is what we call a "force multiplier"; that is, such factors as cover and concealment, observation and fields of fire, etc., can give a skillful commander an advantage out of proportion to the available numbers.

Sometimes these factors are fairly obvious. The dense second-growth vegetation of the Virginia Wilderness, for example, negated a strong Federal advantage in artillery, made cavalry reconnaissance difficult, and turned the 1864 battle into an infantry slugfest. It was for this reason that Lee hastened east to engage the Army of the Potomac on ground favorable to the defender. Similarly, G. K. Warren recognized in one horrifying glance the implications of the Round Tops empty of Federal forces.

At the small-unit level these factors are sometimes more subtle, as well as less forgiving.

The specification of distances in Mahan, from the interval between sentinels to the distance between outpost lines (e.g., outposts to pickets) should be taken as *guidelines*. The actual distances will be dictated by terrain, with the stipulation that the transit distance on foot for infantry outposts should be roughly that suggested by the distances in paces. Given the mission of these outposts, spacing them too far apart for communication and support defeats the purpose.

Achieving the *coup d'œil militaire* requires some knowledge of the military aspects of topography, a subject not much in demand for traditional reenacting activities. It should be. Understanding the course of many of the Civil War's battles is much easier if we move beyond the oversimplifications propagated in the hobby and in conventional wisdom. This brief appendix will provide the topographic terms, mapping conventions, and a very general discussion of how a soldier views terrain. Applying these principles on your own will require practice and a lot of walking around and looking for "the good ground."

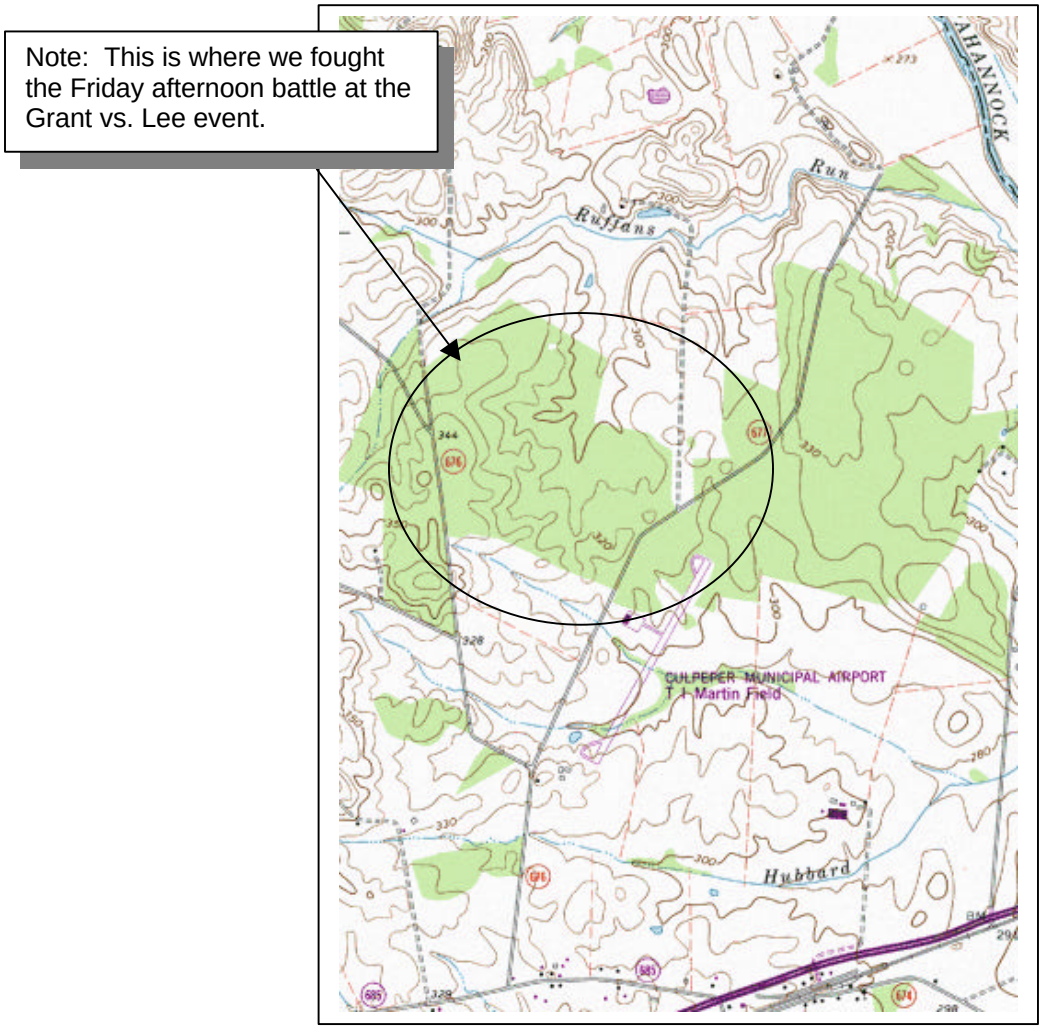
1. Topographic terms

[12] I emphasize experience *and* skill because it has been my observation that many soldiers will never acquire the ability to assess ground no matter how diligently they practice the art, while others seem to do it instinctively.

Modern topographic maps contain an astonishing amount of information for a soldier. The sample below (extracted from a 1:24,000 map of the ground on which the 1999 Grant v. Lee reenactment was held) illustrates the richness of description:

Contour lines show precise gradations of landform and slope, wooded areas are exactly delimited by quiet green shading, roadways and other manmade features are precisely delineated. Heights of hills, locations of monumented and unmonumented benchmarks, condition of waterways, and other details are plainly visible. So exact is the topographic survey that a trained map-reader can pick any location and determine whether he can see any other location without other features blocking the view.

Maps available in the Civil War were often decorative, but precision of survey had not progressed to the point of providing all those map reader's joys. The extraordinary map on page A-3 was drawn by hand from personal surveys by Lieutenant T. D. Brown, United States Army, in 1826. Shown here are the abrupt slopes falling away from West Point's plain.



Details of slope and landform are suggested by fine hatchures that blend to a subtle shading. The outlines of Kosciusko's Revolutionary War fortifications are visible, along with the attachment point of the Great Chain that once stretched from West Point to Constitution Island to foil British river traffic. The rocky fingers of land to the right now contain Flirtation Walk, a private area where cadets may escort their female companions.

However artistic this map may be, its military worth is limited by modern standards. It lacks the UTM (Universal Transverse Mercator) grid that allows precise location of map coordinates, exact and absolute terrain elevations, and other niceties on which a modern soldier relies without realizing how lucky he is to have a modern map!

Maps in the Civil War period were hand-drawn and usually incomplete. The survey of the country was still somewhat haphazard (the technology was mostly there, but the pressing need was not), and available maps emphasized property and commercial features – roads, rivers, rail lines, bridges, etc. The general landforms were well known and their extents and locations surveyed -- in fact, much of the Shenandoah Valley was painstakingly mapped by the young George Washington before the Seven Years' War -- but details of terrain were at best approximate. Slopes were suggested by hatchures rather than by contour lines, and hence slope and trafficability were not exactly readable. Woods were not shown exactly because they changed constantly as trees were cut to clear land for agriculture and to provide fuel. Even roads were impermanent. Farms and other markers were shown when possible on military maps, as well as landmarks that could help formations navigate.

For this essay on terrain analysis, I will rely entirely on 19th century cartographic convention – no cheating!

Figure A-2: Nineteenth-century map. (Courtesy, US Military Academy Museum)

2. Landforms

Shown below are examples of common topographic forms and their common names.

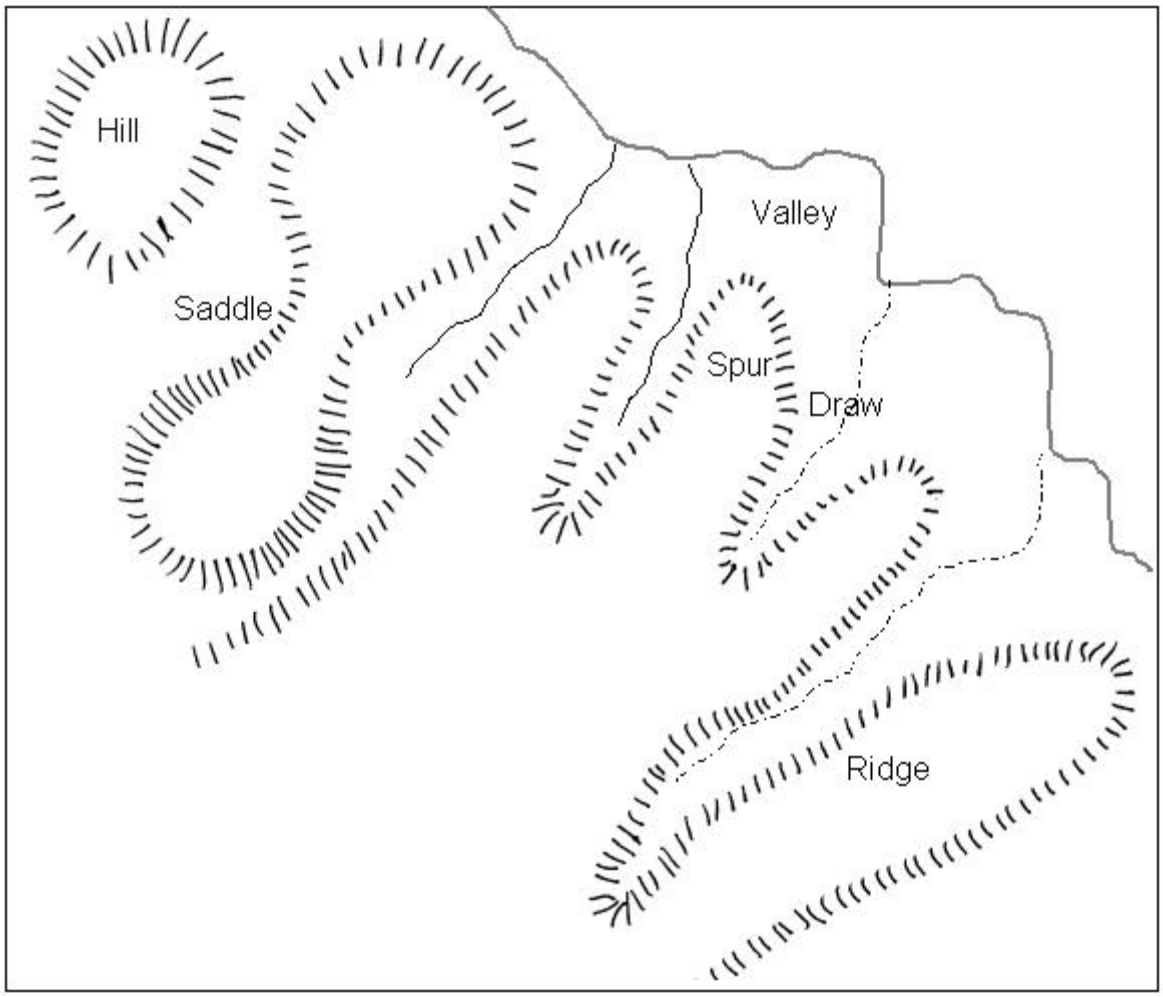


Figure A-3: Landforms

A vital point to remember is that, at this level of terrain form, the critical factor is *water*. Each draw, each valley, is a channel through which water flows. Many 19th-century maps (particularly like those of explorers like Lewis and Clark and Zebulon Pike) showed topography of river systems and their immediate surroundings, since these were commercially more significant than the wide-open spaces in between.

Hatchures provide the same effect as other forms of shading, and can be applied with a nib pen. Cartographers could also use ink wash or watercolor to achieve this effect, but hatchure was most common. As executed by a trained cartographer, the direction of slope was evident because the upper end of the hatchure was slightly wider than the lower. To do this, one needs a nib pen – a modern fiber-tip won't do it right. The length of the hatchure indicates *roughly* how steep the slope is.

Streams and rivers are shown by shaded lines. Those depicted with dashed lines (long and short dashes alternating) are *intermittent streams*, which are not always filled with water, but become streams when the season or precipitation dictate. Note the relationship between the terrain features and the direction of flow of the water. The tributary streams flow into the larger stream that flows from northwest to southeast – naturally, downhill. The flow of water from high ground to low follows the path of least resistance, and gradually erodes the landscape, forming the draws and ravines. The cover, concealment, observation, fields of fire, and trafficability of the area is thus dictated by water. Understanding water flow and its relationship to topography is critical to a grasp of key terrain.

3. "The good ground"

This map shows an area near the headwaters of the Rappahannock River in northern Virginia. The selection shown at Figure A-4 is from a modern 1:24,000 topographic map. The most important element of a modern military map missing in maps of the Civil War period is the network of contour lines – the thin brown traces that show elevations across the map area. These lines are actually the edges of imaginary horizontal slices taken through the terrain at (in this map) 20-foot intervals. Elevations at the even 100-foot levels (e.g., 600, 700) are shown in slightly wider lines, and have the elevation label shown. A skilled map-reader can easily judge the three-dimensional properties of the terrain by observing the contours. Details of the contour lines also show smaller terrain features such as valleys, fingers, and draws. While it is somewhat difficult to see at this scale, the network of streams and rivers follows the path of least resistance – that is, traces the lower areas, with water flowing from high to low elevation.

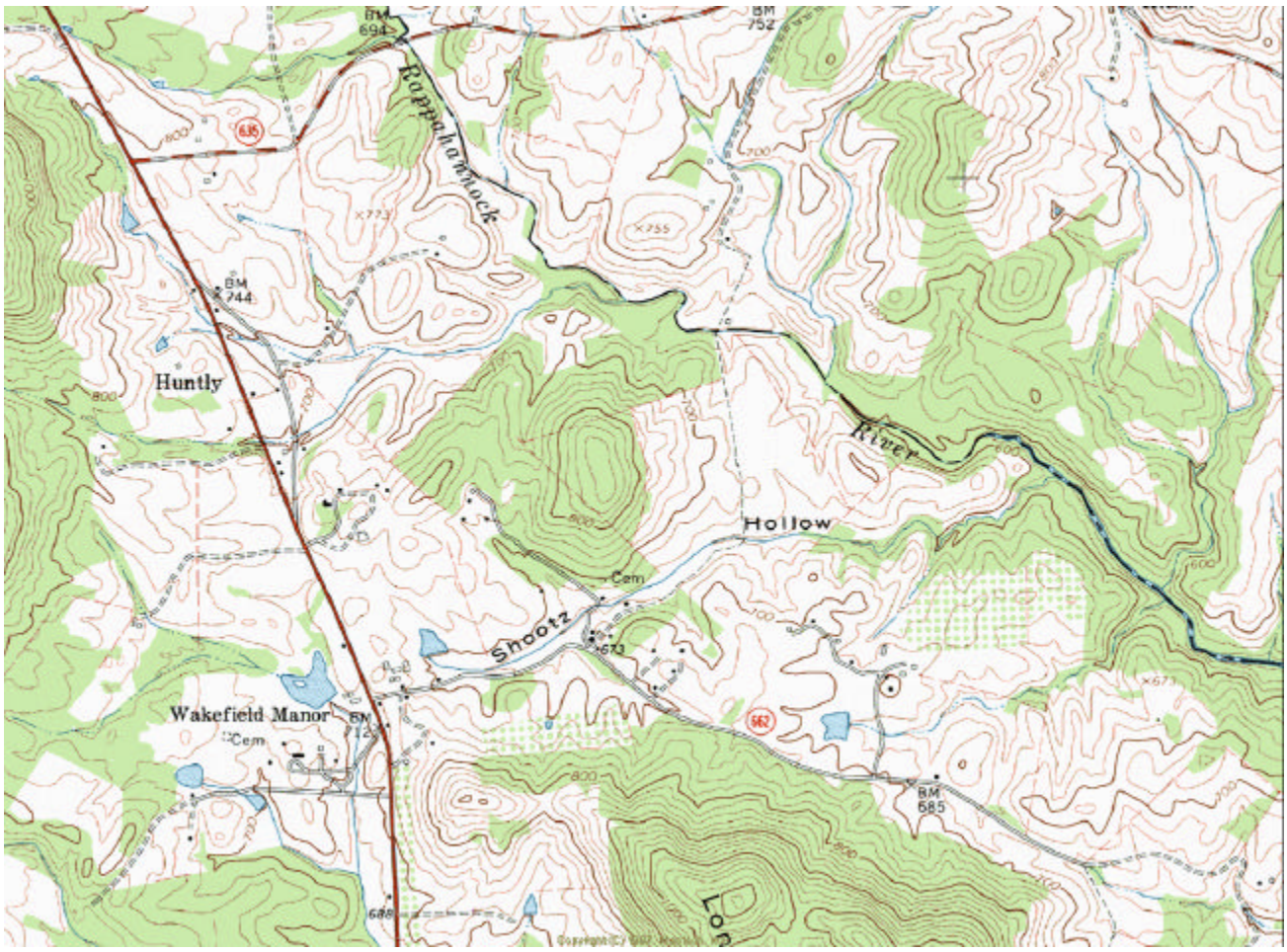


Figure A-4: Modern topographic map.

Figure A-5 shows the *drainage* of the map area – that is, the flow of water illustrated by streams, both permanent and intermittent.

The wide blue channel stretching across the map area is the Rappahannock River, somewhat exaggerated – at this point, the Rappahannock is less than five feet wide at most points! Whatever the size of the stream, however, the major question about water is its effect on *trafficability*. Can wagons and artillery cross? What effect would destruction of bridges and culverts have?

At Figure A-6, I have simplified the depiction of topography by a simple device learned at the US Army Armor School 30 years ago. Ignoring intermediate contour lines, I have traced the 100-foot intervals and color-

coded them to give a general picture of the terrain. The result is enlightening, and provides a picture hard to glean from the fully-detailed map.

The topographically dominating terrain feature is the 1100-foot high mass at the bottom center (known locally as Long Mountain). The only area of comparable elevation shown on the map is along the western edge; actually, this terrain becomes much higher off the border of the map – it is the Blue Ridge Mountains!

A quick look at this simplified map can lead us to conclude that Long Mountain is the area's key military terrain. This is because many naïve historians assume that "higher is better." In fact, Long Mountain is useful as a lookout point, but it has serious shortcomings for other military applications. The slopes are too steep to allow effective placement of artillery or works. Like Missionary Ridge, it is imposing but somewhat sterile as a position.

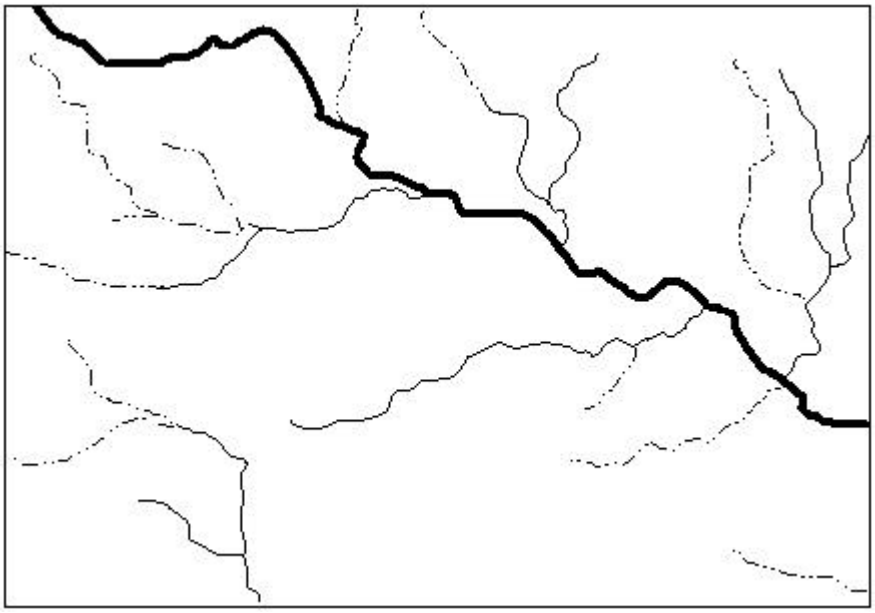


Figure A-5: Drainage.

Imagine the whole area shown by the map as a shallow floodplain draining into the Rappahannock and commanded by high ground to the North, West, and South. The streams shown are of small size, and often dry in the summer. Given the available terrain, the hill in the center (with a crest at about 645 feet) is the most important feature. Its slopes are shallow enough to allow effective placement of artillery and fortifications, observation and fields of fire are good, and it commands the likely avenues of approach. Recall that key terrain is defined by (a) observation and fields of fire, (b) cover and concealment, and (c) avenues of approach.

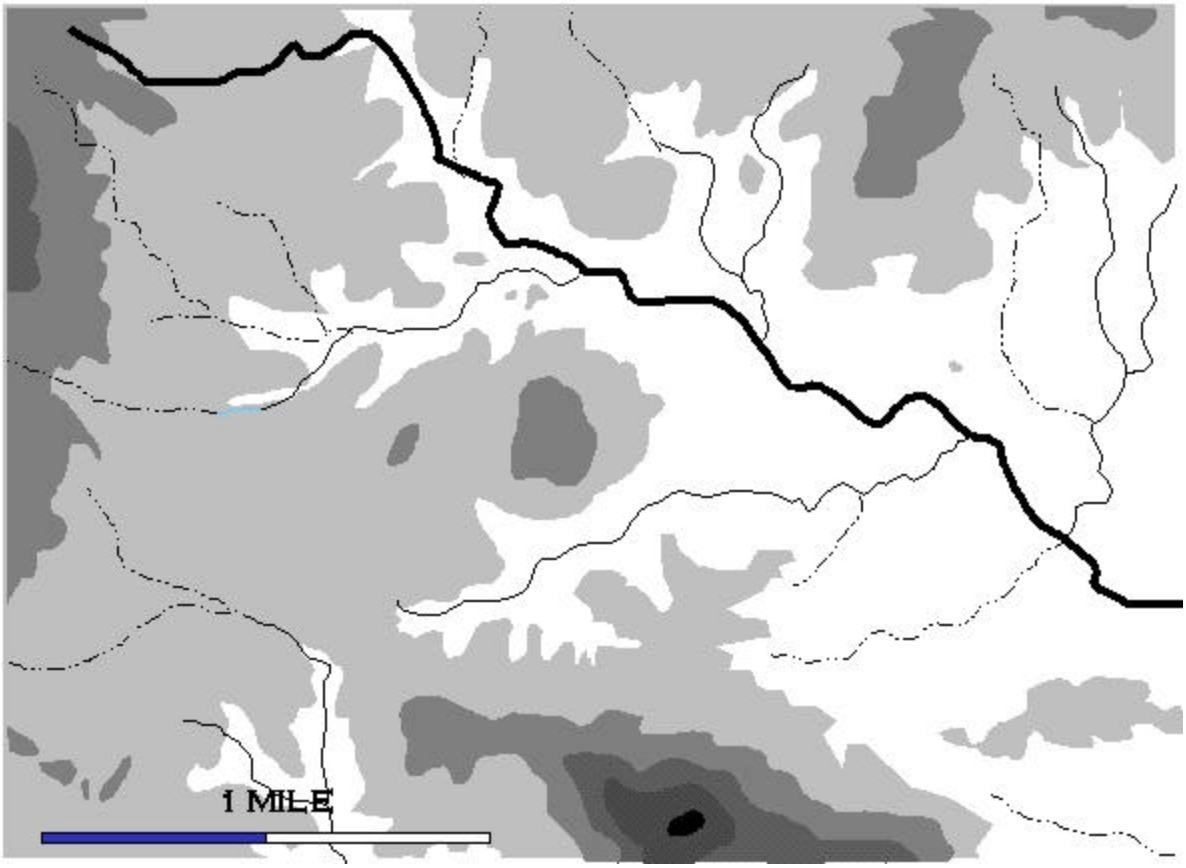


Figure A-6: Terrain simplified

4. Analyzing the ground

Let's begin by assuming we are to set up an outpost line facing the Rappahannock from its southern bank. Our brigade is allocated an area running from the beginning of the Blue Ridge (mid-upper left of the map) and extending about two miles parallel to the river.

Two preliminary observations should me made. First, large forces cannot negotiate the slopes of the Blue Ridge or Long Mountain because these are heavily forested and too steep for any but unsupported infantry. We can anchor the flanks of our outpost line on these features, and simply keep them under observation. In addition, a small outpost on the top of Long Mountain is an excellent observation point that will allow observers to monitor activity for miles around. Surprise, at least during daylight, will be very difficult for an enemy to achieve. Even with the forested areas (see Figure A-4), stealthy approaches are not likely to be possible.

The complete map also indicates that vegetation on the central hill is favorable to the defense, as there is a tree line facing east near the military crest of the eminence. There are also woods on the northern face of the hill that may provide the enemy a covered approach – but only at the last moments, since all farther approaches are clear and under observation of the central hill and Long Mountain.

For this analysis I will ignore the road net shown on the modern map. Most of those roads are paved and long post date the Civil War. In fact, it is probably time to shift to a more accurate 19th-century map style.

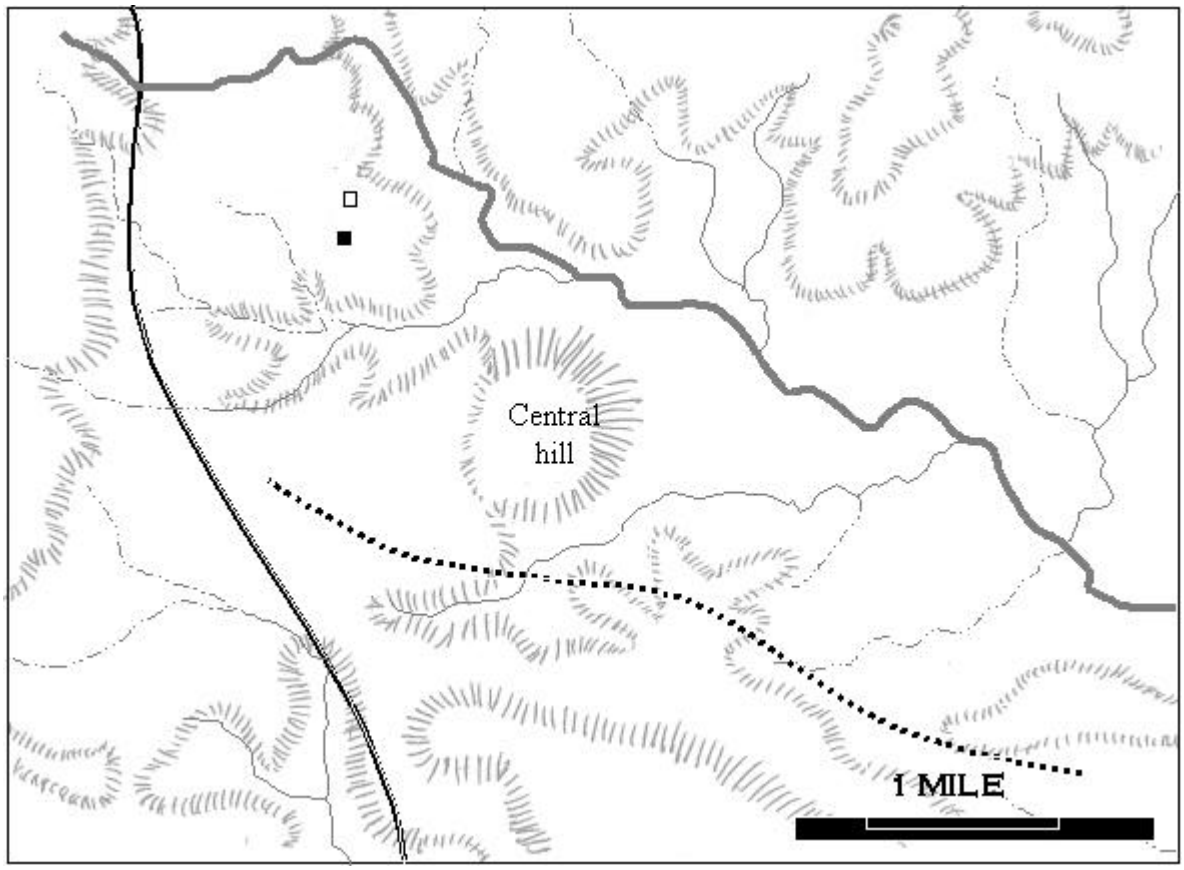


Figure A-7: Hachure map

This version shows the general terrain forms by use of hatchures instead of contour lines. The line in the lower right is approximately one mile. I have removed all roads shown on the original modern map except the north-south road (modern Route 522), which proceeds north to Front Royal, and an imaginary unpaved road to Culpeper. There are other roads, largely unpaved, but this map is, for purposes of this discussion, assumed to be based on an 1855 survey by the Orange & Alexandria Railroad for a possible spur through Front Royal to Winchester and Harper's Ferry. Only the general topography and river and stream systems are shown. One farmhouse and barn are depicted. More detailed information such as additional roads and trails, fords, bridges, buildings, fences, and other critical features must be added by scouts, assisted by the staff engineers and cartographers.

We have already designated the prominence in the center as the key terrain for our outpost line. The next figures show some of the virtues of this ground.

a. Observation and fields of fire

Figure A-8 shows the observable terrain from the top of the central hill in the direction of the enemy's supposed position; the shaded areas are major "blind spots" within which an enemy could move out of observation. (Obviously this does not take into account woods or other obstacles to vision.)

While there are certainly dead spaces blocked to our observation, they are actually rather limited – and so far from our strongest positions that no coordinated attack could reasonably be executed without marching for hundreds of yards under observation and fire. A small battery of two cannons on the central hill could make life miserable for an attacker. Even a mountain howitzer or two could provide satisfying entertainment.

Note also that a small outpost on Long Mountain could cover most of the areas masked from the central hill. In general, I'd be cautious about approaching this position from the north during daylight.

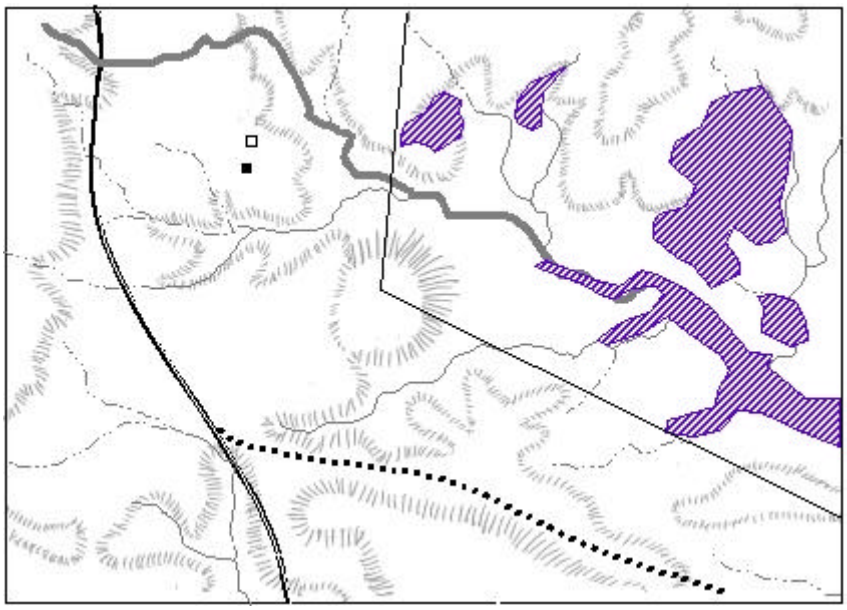


Figure A-8: Areas masked from observation from key terrain.

An obvious option (and one often used in warfare even now under these conditions) is to approach in darkness and attack at first light. This opens the possibility of moving to an attack position without much exposure to harassing fire, followed by a fast, violent assault as soon as there is enough light to maintain control. As we shall see, this dictates a forward shift of outposts just before dark.

b. Cover and concealment

"Cover and concealment" refers to our own position -- are we in the enemy's range of observation and fields of fire? Can we move, can we fire, can we cook our meals and get some sleep without being pounded with artillery or picked off by sharpshooters? This is particularly important on the out-post line, because it is here we are exposed for the longest periods of time.

There is an apparent conflict here: we want observation and fields of fire, but we want to be covered and concealed while we do it. At the higher levels, we solve this my throwing a fraction of the organization forward as relatively exposed outposts, providing "eyes" for the protected bulk of combat power. This is hard on the men manning the out-post line, but is a necessary evil. The out-posts (pickets through sentinels) must find their own solution, usually at a micro- level.

The farther forward you are, the most exposed you must necessarily be. The sentinels farthest forward must have a clear view of the enemy, but must find some cover or build some. A fallen log may suffice, or even (in quiet positions) a solid tree. If there is no cover, some hasty field fortifications may be necessary (but not too obvious or the sentinel will risk drawing attention to his position).

The advanced-posts that supply the sentinel may be able to use the ground to mask its activities. Occupying the reverse slope of a hill or ridge may allow the posting of sentinels on the military crest (see Section A-3 of the main document) while the balance of the force rests, cooks, or maintains equipment. Rotating sentinels will provide rest and a limitation of exposure and stress for everybody.

Whenever a part of the out-post plan involves engaging the enemy (for example, delaying positions for the grand-guards and pickets as the advanced-posts retire under pressure and rejoin their parent units), the position chosen should be the best one possible to occupy while still close enough to the advanced-posts to provide support. Sometimes these positions may not be the best we could hope for, but we are contemplating delaying actions with a few rounds, not a deliberate defense. We do the best we can with the cards the geography deals us!

c. Avenues of approach

Discovering and covering avenues of approach requires us to think like the enemy. What would *we* do in like circumstances?[13] Assessing terrain with a view to a possible fight requires that elusive *coup d'oeil* cited in Mahan and still just as valid. It's hard to explain in writing, and not much easier on a map. With respect to evaluating the ground for a possible enemy advance, consider the following:

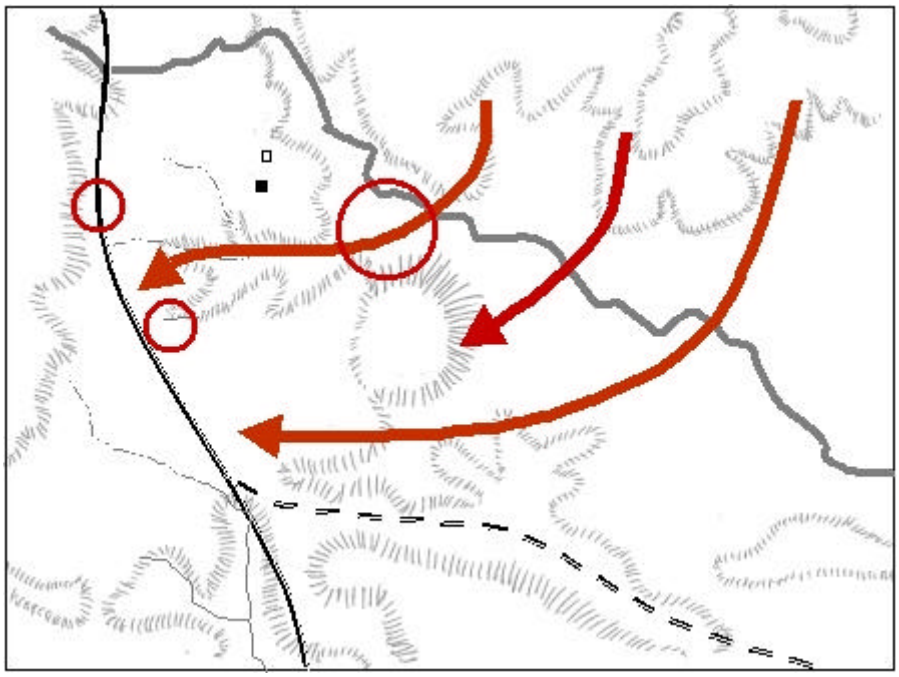


Figure A-9: Avenues of approach.

- If the enemy is to move in your direction, which routes offer the best cover and concealment?
- Which routes offer the easiest trafficability (fewest obstacles to movement)?
- What is the enemy's likeliest objective, and which routes offer the shortest route to that objective?

The key here is the *objective*. An enemy with any skill at all will happily probe your out-post line for any of a number of reasons: to discover your strength and dispositions, to gather intelligence, to make you reveal your intentions, to probe for weak spots. But he is unlikely to launch a serious attack for the sheer joy of combat – that is a waste of combat resources. (See, however, footnote 1.) He will launch an attack if there is some objective worth fighting for, and his avenues of approach will lead to that objective.

The obvious objective in this example is the Front Royal Road (the north-south line of communication on the left of the map). This is vital because it is the only easy line of communication for Federal forces in this vicinity. It parallels the Blue Ridge (just off the map to the west). If the enemy can cut that road in your sector, movement of troops north and south will require a detour into the Shenandoah Valley.

The road can be interdicted in two ways. The first is to move north or south of the central hill ("key terrain") and occupy the road itself. This has the advantage of bypassing the easily defended hill; however, it also leaves the attacking force in a precarious position, with a bypassed force in the rear and the likelihood of angry Yankees storming down the road at them from the left or right. The second option is to assault the key terrain itself, occupying the heights and controlling the road by bringing artillery to bear. This makes the objective easier to defend against counterattack, but the assault itself is trickier because the ground favors the defender.

What would I do? I was always a "book" man, and would probably follow Mahan's instincts. The hill is the key terrain, the jugular vein of the Federal position. If the hill is yours, the road is yours until the Feds push

[13] WARNING: Never make the mistake of assuming the enemy is rational. The most dangerous enemy is often the stupidest – stupid men are unpredictable.

you off. A major assault on the hill in daylight would be very costly and would give the Yanks time to reinforce. A good approach (using the Emory Upton method) would be to sneak a battalion or two as close to the hill as possible under cover of darkness and assault very quickly at first light; after the infantry has consolidated the objective, drag a battery up as quickly as possible.

Before doing that, however, I would want to know how many Yanks are on the hill, where they are, how alert they are, and if they mean to stay and fight. I would probably probe during the day and after dark, using resources from my own out-post line. (Note: Since this kind of probing may be interpreted correctly as a prelude to serious mayhem, I would probe other places as well – perhaps even more actively along the obvious alternative avenues.)

5. Establishing advanced-posts – a stroke of the eye

Now that we've thought that out, we need to position our out-posts to guard against those enemy options. Consider two further things:

- Out-posts in daylight are best described as *observation posts*. Sentinels will generally detect the enemy at maximum visual range. At night, they are really *listening posts*, limited to the range of noise detection, which will vary with weather, vegetation, atmospheric density, and other factors. The best site for an out-post during the day may not be the same as the best location at night, and you should be prepared to shift out-posts accordingly. This takes planning and coordination.

- There will obviously be gaps between out-posts. The gaps can often be wider in the daylight than at night, and placed farther back. Particularly at night, roving patrols may be necessary to cover the gaps. A passive, stationary out-post line is likely to get picked off in detail.

Figure A-10 shows a possible arrangement for out-posts. The battalion providing advanced-posts in this area (28th MVI; 1) occupies a sector bounded by the headwaters of the Rappahannock in the north (and guarded by a detachment of cavalry (2)) and the 69th NYSM to the south (3). The peak of Long Mountain (4) is occupied by an observation post and a signal detachment.

The central hill (5) is manned by the middle position of three advanced-posts; the other two guard high ground overlooking the remaining two avenues of approach. The pickets are deployed in support of the advanced-posts, with two detachments in direct support of the elements on the central hill. The balance of the battalion comprises the grand-guards, and can deploy directly to the central hill across fairly flat ground, or maneuver north or south along the Front Royal Road if other threats develop. The depth of the out-post scheme is about three-quarters of a mile.

Provision is also made for a strengthening and forward movement of the out-posts at night (hollow circles). This adds some depth to the line, particularly in the south. However, at night he enemy will move more slowly than in daylight, and – more important – more slowly than the defender, who will have had time to reconnoiter and mark likely routes for the reserve.

Note that there are two additional out-posts at night, and that the leftmost out-post does not shift after dark, since it is already close to the river line. The additional out-posts are placed because of the problem of detecting movement by sound in darkness. This requires closer placement. In addition, larger gaps between night out-posts (listening posts) are covered by roving patrols.

Now a point that most reenactors, especially the "campaigners," fail to appreciate: Civil War battles were not generally fought at night, particularly by the out-posts. The entire command and control system in those days was based on visual observation and verbal orders. If there was a night assault, it was usually a slow, silent approach by a mass, followed by a short rush on a forward objective (like the Mule Shoe). There was no opportunity to exploit, since formations get confused at night, and after the assault there is no real chance of rallying the men and regaining control. These assaults did happen, but they were rare.

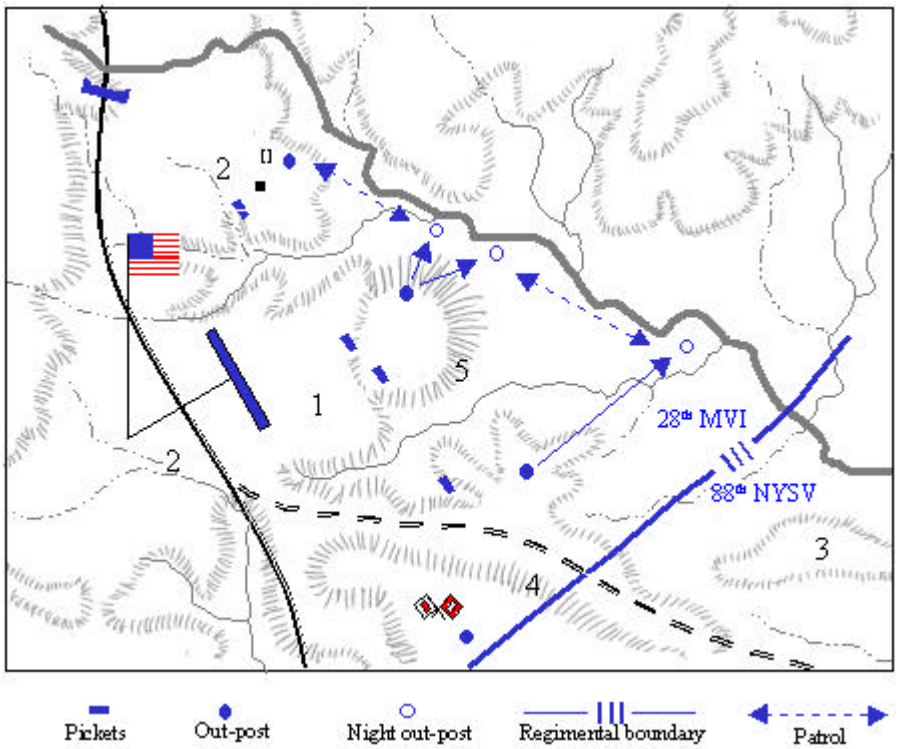


Figure A-10: Plan for out-posts.

In addition, out-posts and skirmishers did not go whooping around in the woods fighting running battles with each other. It was a waste of time, effort, and blood. Skirmishers could not then force a decisive engagement because of the slow rate of fire of infantry long arms. The out-posts existed to provide early warning and prevent surprise, not to set up shop on their own! Rather than attacking the enemy out-posts, you may consider patrols and probes (discussed elsewhere) to develop information about the enemy that cannot be gained through simple observation. But the objective is *not* to get into a fight.

This is a good reason to pay particular attention to the terrain when contemplating out-posts and small-unit operations. The key is not just finding "the high ground," despite reenactor myth. The decisive ground is a more complicated thing to identify and, as stated earlier, it is hard to define a set of rules or algorithms for finding it. Jomini (and Mahan) correctly call the knack a "stroke of the eye" – it is just that, a mysterious combination of experience, theory, and insight that differentiates the expert from the novice.

6. A note on strategy and terrain

As long as we're on the topic of terrain analysis, it is helpful to include a brief comment on the interaction of terrain and strategy in the Civil War, using the peculiar case of the Army of the Potomac's area of operations. The maneuvers, objectives, and battle sites of the major eastern campaigns depended heavily on the physical geography of Virginia. If you understand this interaction, the whole war in the east may be a little more comprehensible.

Virginia has two sets of barriers – mountains and rivers – and they are arranged almost perpendicularly. This circumstance tended to channel commanders into a narrow set of strategic choices. The theater of Virginia looks small when viewed on a map of the United States, but the actual usable campaigning area was even smaller than a casual look at the map might suggest.

a. Rivers. A series of rivers runs generally from northwest to southeast from the high ground inland to debouch into the Chesapeake Bay or its Atlantic mouth. The larger ones – Potomac, Rappahannock, Chickahominy, James – and the smaller ones – Mattapony, North Anna, Pamunkey – share one feature common to river systems of this type. From their mouths upstream for some distance, they are influenced by the ebb and flow of

tides. Such river stretches are said to be *estuarine* – that is, they are estuaries. In general, the estuarial stretches of sizeable rivers tend to be deep and difficult to ford – ships could sail far up the Rappahannock in the last century, for example.

The point at which tides cease to exert their effect on water flow is called the *fall line*, usually because there are rapid, shallow points. Above the fall line, even large rivers tend to be fordable in places. The coastal land to the downstream side of the fall line is called the *Tidewater* for obvious reasons. The strip or land upstream from the fall line to the headwaters of the rivers is called the *Piedmont*.

Virginia terrain favored the defender from the coast to the Blue Ridge. The larger rivers were unfordable in the Tidewater and, as Burnside learned, difficult to bridge against a determined enemy operating on interior lines unless he chooses, for his own evil reasons, to let you cross. This made the land from the river mouths to the fall line poor campaigning country, and hence relieved Lee of the responsibility to keep large numbers of troops there.

At the western extreme of the Piedmont is the barrier of the Blue Ridge. Unsupported infantry might scramble across between infrequent gaps, but without their supplies and artillery. Hence, the real battleground was in the Virginia Piedmont.

In the Piedmont, the Southron defenders had a slim advantage on the defense, since attackers from the north would be obliged to meet them at one river line after another. Now, many of you have looked at these rivers and not been especially impressed. They don't always look like much (even the Rappahannock – but it isn't even fordable now, and was not nearly as silted up in 1862-3), but they do present barriers.

Why? Because the key isn't just high ground overlooking the river (though high ground usually does, it being in the nature of rivers that the banks are higher than the bed). It is also the bed of the river. Again, if infantry can get across but supply trains and artillery can't, a bridge has to be built. In the time it takes to build a bridge or get into position to cross, enemy on **interior lines** can move to block you.

b. Mountains

An examination of a map shows a series of lines of low mountains, negotiable only at infrequent caps, paralleling the Atlantic Coast like a crinkled bed sheet. Moving west from Washington City, one first encounters the Bull Run Mountains, passable through Thorofare Gap. The Bull Run Mountains are interrupted by the Potomac, then continue north into Maryland and Pennsylvania as Catoctin Mountain (you skirt Catoctin at Thurmont, on the way up Route 15 to Gettysburg). This high ridgeline eventually curves west and joins with South Mountain, running parallel to the west. Below the Potomac, South Mountain is called the Blue Ridge Mountains. Again to the west, the land rises to become the stately ridges of the Alleghenies.

Now, these mountains are not in themselves good defensive positions. They don't need to be defended, because they can't be crossed except at gaps. It's the gaps that have to be defended, a job that can be done with great economy by cavalry or by infantry detachments. When the enemy decides to force gaps in deliberate, heavy assault fashion (as at South Mountain in 1852), the results can be spectacularly bloody.

The other advantage of the mountains, as Michael Shaara noted in the first pages of *The Killer Angels*, is that they screen movements. An army can march at high speed north-south, sending out detachments to screen the gaps and keep the enemy guessing.

Look at the map and try to visualize the importance of the Shenandoah Valley, and the unique advantage it gave the South. The river barriers run along the valley, and do not impede movement, while the Blue Ridge on one side and the Alleghenies on the other screen the flanks. Religious Rebels might reasonably call the Valley a launching rail for mayhem, provided by God for the convenience of the South. Armies moving north can emerge from the Valley at any of several points through convenient gaps. Moving north and protected from view by the Blue Ridge, Lee, Jackson, or Ewell could strike swiftly at any of several axes; the Federal commander took a risk if he guessed wrong, and for that reason had to tell off sizeable forces to prevent inconvenient debouchment from gaps and passes. A Southern army moving north could emerge at Harper's Ferry, or veer east through the passes to Boteler's Ford or Raccoon Ford or other convenient crossing points over the Potomac; once across, the targets were many. This always put the Army of the Potomac on the defensive, yielding the initiative to Lee. If a Federal Army moved south down the Valley, on the other hand, it would stay bottled up as far as Tennessee; to move *down* the valley and strike at Richmond would require forcing the Blue Ridge (for example, near Staunton) against an enemy favored by terrain. Recall that Sheridan, even after breaking Confederate strength in the Valley, contented himself with destroying the agricultural base. The only real option is to storm south and take the first left past Staunton; even if you get through, you're in the middle of nowhere and far from your supply head.

Appendix B – making sketch maps

Maps in the Civil War period were very different from the precisely surveyed and accurate topographic maps of today. Military maps emphasized roads and towns, since these were the most important aids to navigation. A map reader wanted to know how far he had to go and how long it would take him to get there – hence lines of communication were essential. Concerns with topography were generally limited to trafficability (e.g., gaps through the mountains), defensible terrain (e.g., river lines, ridges), and other obvious key points.

What they did not have (and we do have now) were precise maps in large and small scale showing details of landform, vegetation, and human activity. For example, hills, ridges, and other convolutions of the earth were generally indicated with *hatchure lines* indicating that a slope was present, but providing very little other useful information (see Appendix A). A military map of the day could not provide such hints as *line of sight* – can point A be seen from the vantage of point B? The purpose of the overall battle maps was to let troops maneuver toward an objective quickly and without traffic jams, and to give leaders some idea where they were.

This made sketch maps critical. A sketch map prepared by a diligent and skilled reconnoitering officer or risk-taking engineer (in the trade of war, not such an oxymoron) could provide detailed local information invaluable in planning tactical moves. The cartographic engineers were busy with work like this, and their sources included railroad surveys, commercial maps, interrogation of local farmers and townspeople, and – most important – *direct information from those who had reconnoitered and seen the ground*. Every combat officer should be able to make a sketch map. Maybe they won't look pretty, but they can save a great deal of embarrassment.

Range, direction, and points of reference

To make an accurate sketch map, you will have to know (1) where you are, and (2) direction and distance to landmarks. In the absence of GPS and laser range finders, you may use field expedients. The first – a homemade stadia range finder – is described in loving detail by Mahan

This device requires some effort to make, but will prove useful in gauging the lay of the land. It requires a smooth stick, about a yard of twine, and a willing private or a working knowledge of plane trigonometry. The stick should be about six inches long (one of those period pencils Dixie sells will do very well). Cut notches around the bottom of the stick and tie one end of the twine around this point; tie the other end to a buttonhole so that the length of the string is less than the length of your arm fully extended to the front. You will now be able to hold the stick in front of you at the same distance every time.

Make another notch near the top of the stick. This represents the sighting point for the head of a standing soldier. Now you need to calculate how far below that mark the feet of a soldier at some known distance (let's try 100 yards) will be. If you know about trigonometric functions, go immediately to the next section.

Of course, you may not have your trigonometric function tables handy, even if you are trying to do a West Point graduate impression. In this case, find a soldier, measure his pace, and send him out 100 yards (HINT: Do this *before* moving out to face the enemy) and cut the marks directly on the stick. Half that measure will be 200 yards, etc.

Having done this, construction of a sketch map now requires a protractor. Mahan describes folding a piece of paper (see drawing) to accomplish this trick. Holding this close to the eye can yield a fairly accurate angular estimate that will allow you to judge *relative position* of a few landmarks and filling in the features around them. I've provided an example in the appendices. (Note: A compass is much better, but period compasses are expensive.)

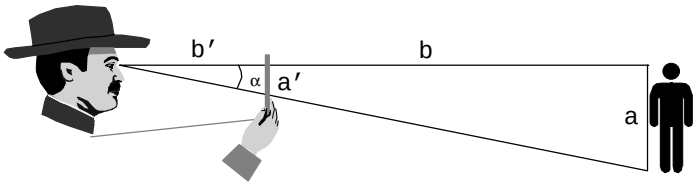
This may all seem farfetched, but it really isn't. All West Pointers had basic topographic skills. Basic education for boys in those days included trigonometry, because of its application to surveying, carpentry, and other tasks. Things haven't changed much; since graduating from high school in 1961 I have been obliged to slug my way as far as integral calculus and advanced multivariate stats, but the only quantitative tool I have used regularly and routinely is simple linear trig!

Range finder (alternate method)

For the trigonometrically literate, there is a quicker way to make the string-and-pencil range finder. To use this method, you will need the string, the pencil, and a book of trigonometric function tables (or you may do it on your computer – most spreadsheets have trig functions).

First, cut the string and tie it to the top buttonhole. Cut a groove around the base of the pencil to provide an anchor point and tie the other end of the string to the pencil. The string should be about 24" long.

Imagine a soldier six feet (2 yards) tall and standing 100 yards away. Sighting on the soldier suggests a straight line of gaze 100 yards long to the top of the soldier's head and another line to a point at the level of his feet. This describes a right triangle with a base of 100 yards, a height of 2 yards, and a hypotenuse slightly longer than 100 yards.



The angle subtended by the image of the soldier on the retina is α. The tangent of angle α is found by a/b; therefore, tan α = 2/100 = 0.020. (We can find by tables or by computer that arc tan .020 = 0.0199 – that is, the angle α is about .02 radians, or 1.145 degrees but this isn't necessary for our computation.)

Having done that, we need to calculate side a′, which is the space between notches equivalent in angular measure to a soldier at 100 yards. If the distance of the stick to the eye is, say, 24 inches, it's easy to find. We know by measure that b′ is 2 feet and the tangent of angle α is 0.020. Since by definition

$$\tan \alpha = a'/b'$$

then

$$a' = \tan \alpha * b' \qquad \text{or} \qquad a' = 0.20 * 24 = .48''$$

Therefore, the space between the "head" and "foot" marks on the pencil will be .48 inches at 100 yards. (At 200 yards, a′ will be .24 inches.)

You may, of course, save yourself the trig and just cut the string so the distance from the pencil to your eye is 24″ and make the notches accordingly.

Drawing the map

I recommend a fairly large sheet of notepaper and a container of some kind to keep it dry. If it's raining, you may have to find two privates to hold a gum blanket over you. Maps on site should be executed in pencil, as you will want to make corrections. Leave it to the engineers to render your artwork in sepia. You will need a straight edge of some kind.

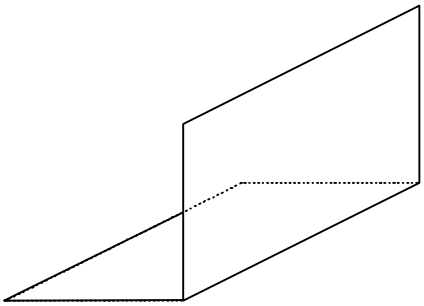
First, locate yourself. Make a small "x" there. Now, locate two landmarks that the headquarters types will know about from a larger scale map – the crest of a hill, a church steeple, a barn. Find their direction from you (absolute if you have a compass; if you don't, just estimate the angle of sight between them) and estimate the distance as best you can. At least get the angle. (Example: "From my vantage point, the steeple of Salem Church and the junction of Muddy Lane and the Houghton Holler Plank Road are about 30 degrees apart.")

Why obsess about this "angle?" Because if the engineers have two known points and their directions from you, they will be able to find your observation point by triangulation, and the other details you will sketch can be placed accurately in the larger context. This will allow the information on several sketch maps to be combined.

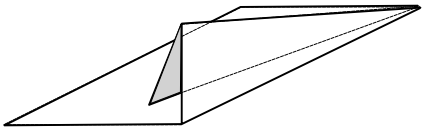
Now, look around to find the key terrain. This might include roads, woods, streams and swamps, stone walls that offer good defensive positions, high ground with observation and fields of fire, buildings and landmarks to aid in orientation and navigation. Estimate direction (try using a known reference point and measuring the angle of sight from that to your new landmark) and distance. Gradually build your map from those bits of information and fill in the details as time allows.

A list of common map symbols is attached. Sometimes these symbols are inadequate, and require elucidation in the form of notes. Get it clear. Burnside (who else?) got a division lost and nearly cut off at Spotsylvania because the maps provided had the notation "gate" at a critical point along a road; there was no "gate" obvious, and the lead regiments marched blithely past and almost into the Confederate right wing. "Burn" got positively testy about it in a dispatch ("There is no such feature as 'gate.'"), and there may have been an embarrassed cartographer.

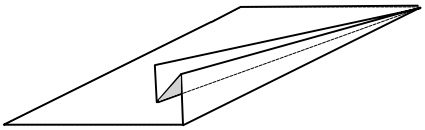
Focus on what is of military use. This is more important than artistry. The people evaluating your map are interested in practical things: can I march down Muddy Lane without being observed from the bald hill? Is the ford over Marsh Creek firm enough to carry artillery without getting mired?



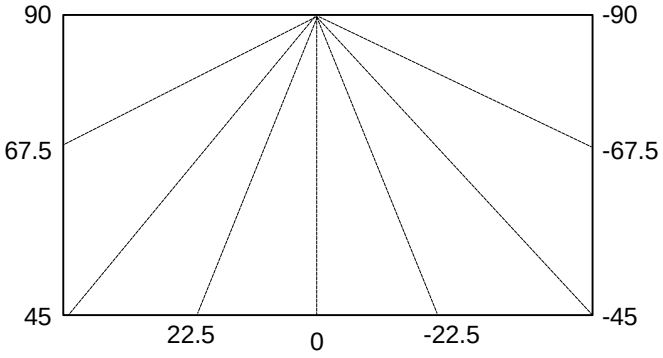
Fold paper in half.



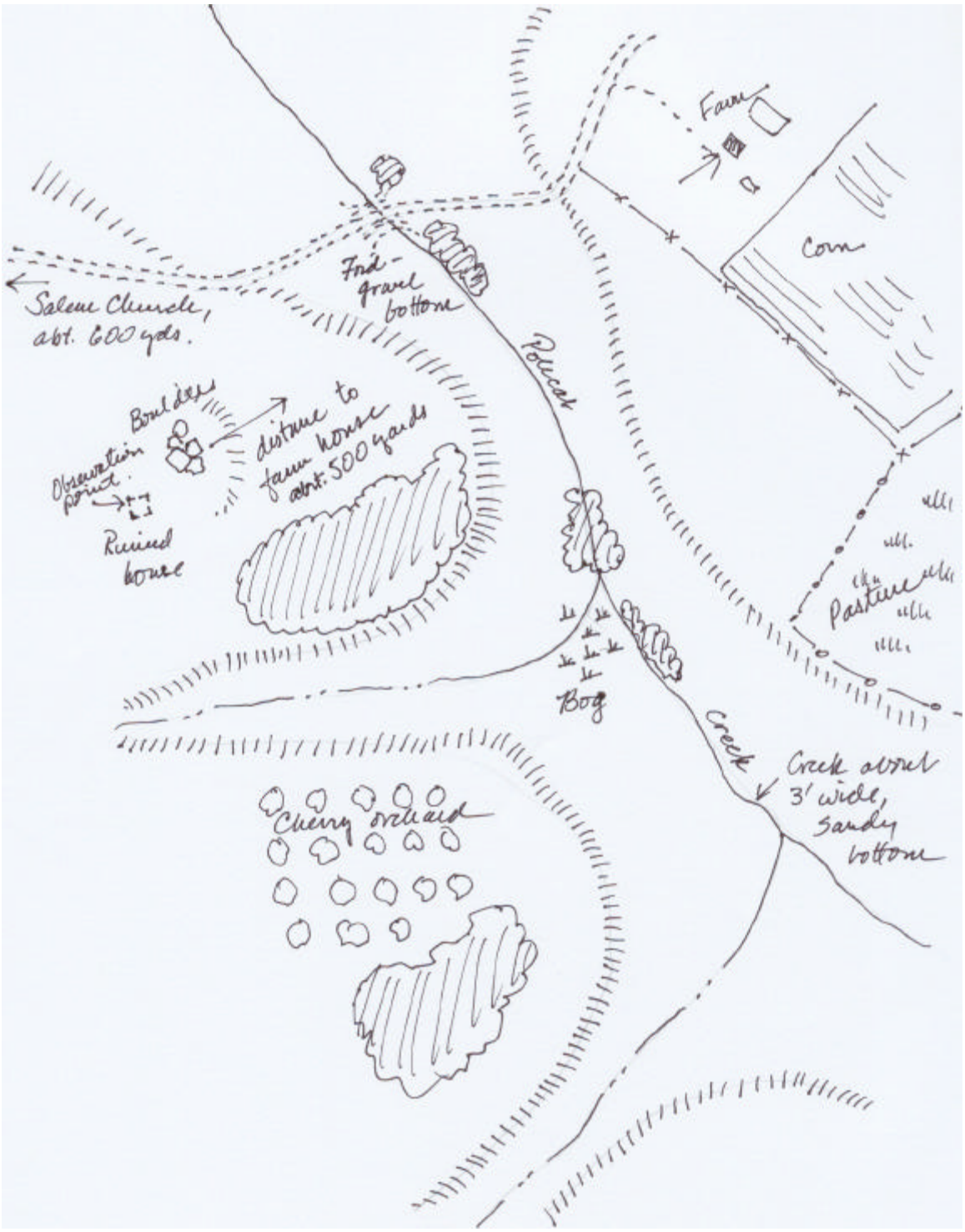
Fold in quarters.



Fold "octavo" and repeat for other side.



Trace fold lines.


Farm
Corn
Salem Church, abt. 600 yds.
Fnd - gravel bottom
Pollcat
Boulders
Observation point
distance to farm house abt. 500 yards
Ruined house
Pasture
Bog
Creek
Creek about 3' wide, sandy bottom
Cherry orchard

Appendix C – The complete book of military science, abridged

The military terms defined and explained below are predominantly those used in the Civil War period; some have since become obsolete or obscure, or have been replaced by other terms. I have made an effort to use period-correct expressions wherever any exist. There are also descriptions of battles used in those days as examples of the military art, examples that would have been used by educated Civil War officers. It may save us from citing "Saving Private Ryan."

Many terms used in the 1860's are French; this is because most texts on military art and science were either in French or recently translated from the French. Despite the outcome of Waterloo, France was considered the *dernier cri* of military excellence, an assessment disputed only by the Prussians. West Pointers learned French, and would have pronounced the terms correctly, as would most educated Americans.

In appropriate sections of text, reference is made where helpful to chapters in which the concept is mentioned. In addition, words defined elsewhere in the appendix are in boldface.

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abatis ("A-ba-TEE" or "A-buh-tis"; the former is French pronunciation, which I strongly suspect was used at the time in preference to the English) An adjunct to field fortification in which sharpened stakes or branches are buried in the **parapet** in front of a trench or other works to impede close assault by infantry. From Fr. *Abbatre*, to beat down; see *batter* and *abate.* In use since Roman times.

advanced-guard[14] A **detachment** of troops detailed to provide security for the leading elements of the main force while moving through enemy country. (See Chapter II)

advanced-post In general, a detachment of troops deployed to provide security to the front of a stationary main force. (See Chapter II)

ambuscade Archaic word for ambush, used in the Civil War.

assault, deliberate An attack that follows methodical preparation, generally conducted against an enemy already fortified or otherwise prepared. *Example*: the attack on the Muleshoe at Spotsylvania.

assault, hasty An attack launched without extensive preparation, usually to exploit the opportunity to carry an objective before the enemy has firmly established a position. *Example:* Warren's first assault at the Wilderness.

azimuth An angle, usually in degrees, but occasionally in radians, used to describe the direction in compass declination from one point to another. An observer or reconnoitering officer may

[14] Noun-adjective combinations frequently used together tend to evolve into one word, the first step being hyphenation. In the 1860's, many more such combinations are hyphenated than is the case now. I have used period practice in all cases, for example substituting advanced-guard for advanced guard, taking endless trouble to overrule the automatic grammar-check function.

employ compass azimuths and range estimates to determine relative positions of features in a sketch map. (See Appendix B.)

cartographic Of or pertaining to the making of maps.

cheval-de-frise ("sheVAHL duh FREEZE") A special fortification of interlocking sharpened stakes used to stop the momentum of a cavalry charge. (Interesting derivation. It means "Frisians' horse." The Frisians didn't have horses when they fought the Spaniards; they used these contraptions instead.)

column order Practice of attacking an enemy position using a deep order (*ordre profonde*), or column of soldiers in depth. In this deep order, mass of fire is discarded to allow momentum of masses of men. *Example:* Longstreet's assault at Chickamauga. See **line order**.

combined arms The practice of coordinating a plan and execution to make the best use of the principal "arms" – infantry, cavalry, and artillery. This is almost never done at reenactments, scripted or "tactical."

corduroy A road paved with logs or planks in a primitive attempt to allow it to carry heavy traffic (wagons) in all seasons. How it must have felt for wounded to be bounced in barely-sprung ambulances down a plank road defies imagination. *Examples:* Jerusalem Plank Road, Orange Plank Road; the original Alcan Highway (now the Alaska Highway) built in WWII.

coup d'œil militaire (koo d'OY mili-TAYR) A "military stroke of the eye." The ability of a seasoned commander to size up a battlefield at a glance, identifying the key terrain and other critical features.

cover Property of terrain or fortifications that provides protection for infantry against direct observed fire.

crest, military The front slope of dominating high ground, giving infantry a high position without silhouetting them against the horizon on the **topographic crest**. (See p. 7)

crest, topographic The highest point on a prominence. A soldier standing at the *topographic crest* is easily observed and vulnerable to fire. (See p. 7)

debouch (vt) ("di-BOOSH") To emerge suddenly from a constricted or concealed place; toothpaste *debouches* from the tube. In the military sense, to burst forth from a defile or pass or other restricted place. *Example:* As the Second Battle of Bull Run was beginning, Longstreet *debouched* from Thorofare Gap to join Jackson. Also ***débouché*** ("DAY-boo SHAY"), a place from which troops debouch, and **debouchment**, the act of debouching. All from Fr. ***Déboucher***, to emerge from. Do not confuse with *debauch*.

defilade A position from which observation and fire from an enemy are blocked by the topography. *Example:* The veteran troops of the Irish Brigade engaged the Sunken Road at Antietam from the cover of a gentle rise in the ground, firing from *defilade*.

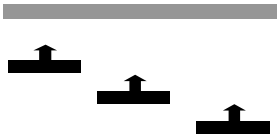
defile A narrow or constricted passage, within which troops must move in narrow column; a gulch, ditch, valley, sunken road, or other **topographic** strait. A force may find cover in a defile, but will also find itself vulnerable because of an inability to deploy properly. *Example:* In "Fort Apache," Colonel Thursday led his battalion into, but not out of, a *defile*.

demonstration A calculated show of force designed to attract the attention of the enemy, usually as a cover for a maneuver elsewhere or as a delaying tactic. *Example:* General Magruder stopped McClellan's advance in the Peninsula with a clever *demonstration* that made his force seem much larger than it really was.

detachment [1]The assignment of a body of troops away from its parent unit for a special mission (e. g., advanced-guard). [2]A detached body of troops.

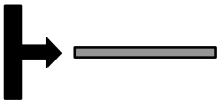
draw A topographic feature formed by two parallel **ridges** or **spurs** with low ground (draw) in between them. A draw differs from a valley in that it rises with the surrounding ground and disappears up-slope. A draw is usually etched in the ground by water flow, and so often contains a stream. (See diagram, Appendix A.)

echelon The practice of deploying formations in irregular order, slanted to left or right. This attack *en echelon* can be used to confuse the enemy as to the actual objective. First used by the Theban general Epaminondas at the Battle of Leuctra (371 B.C.E.) to defeat the Spartan Phalanx.



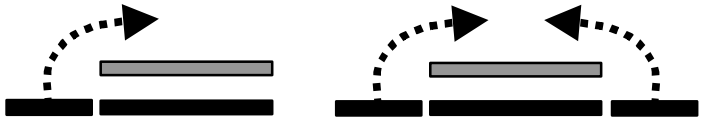
Attack *en echelon*

enfilade A position against an enemy line so arranged that one's long axis is perpendicular to the enemy's long axis. Like the comparable naval maneuver of "crossing the T," the result is that one force can direct the whole weight of its fire, raking the enemy's line, while the enemy's fire is obstructed down its length. This is often a decisive event. *Example:* In one phase of the Battle of Leyte, Admiral Kincaid's battleships obliterated the Japanese southern force with brutal *enfilade* fire as they attempted to **debouch** from the Surigao strait; since a good proportion of the American force had been salvaged from the mud of Pearl Harbor, this suited the sailors to a "T."

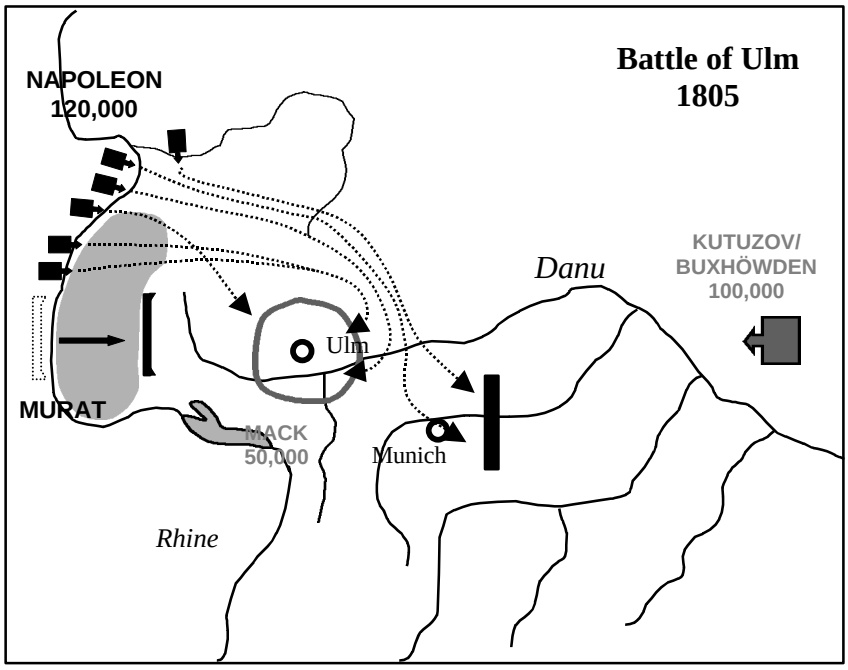


Attack *en enfilade*

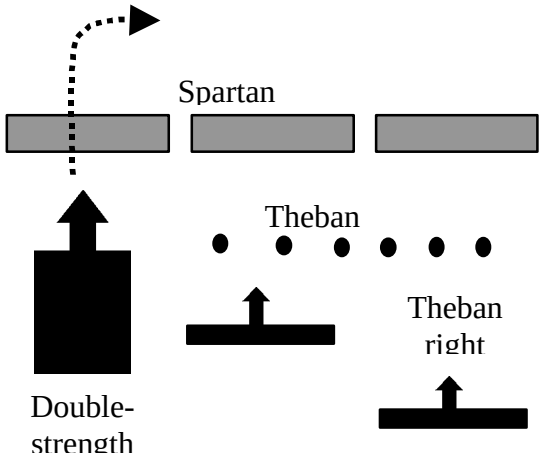
envelopment A maneuver that is executed to surround or cut off the retreat of an enemy by swinging around one or both flanks.



Envelopment; L. single; R. double



Demonstration: At the Battle of Ulm (1805) Napoleon confused the Austrian general Mack with a demonstration, in which Marshal Murat's cavalry crossed the Rhine and threatened the city of Ulm from the west. Meanwhile, Napoleon moved a blocking force to the east to delay the Russian force moving to Mack's aid, while hurling the mass of his Grand Army on Mack's rear while the Austrian had his attention fixed on Murat. These are classic examples of **demonstration** and an **economy of force**.

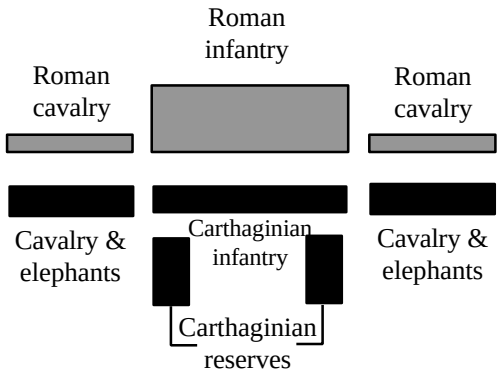


Echelon: At Leuctra (371 B.C.E.), Epaminondas attacked in echelon, using the principles of **surprise**, **economy of force**, and **mass** to crush the Spartan army. The Spartan phalanx, stronger and better trained than the Thebans, deployed in the traditional fashion. The Theban Strategos, however, stacked his strongest forces on the left and refused his right flank, moving forward in **echelon**. A cavalry screen delayed the Spartans to the front of the refused flank, while the double-strength phalanx rolled up the Spartan flank and swept the field. The Theban fighter was miles ahead of any competition at this critical point. He was soon to be outshone by Alexander the Great; cruelly, he is remembered as Epaminondas the Pretty-good.

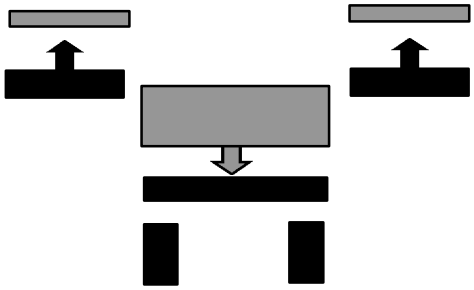
The first successful use of a double-envelopment recorded in detail was Hannibal's victory at the **Battle of Cannæ** (216 B.C.E.). This engagement was used for centuries as a classic illustration of the battle of annihilation, and would have been well known to officers in the Civil War.

Leading a mostly mercenary force, Carthaginian general Hannibal invaded Italy in 218 and ambushed and destroyed the Roman armies sent against him at Trebia and at the Battle of the Trasimene Lake (217). In 216, the newly-elected Consuls Æmilius Paulus and Terentius Varro moved against Hannibal to avenge the defeat and remove the threat to Rome. The cautious Paulus yielded to headstrong Varro's brainless urge to attack immediately. Hannibal had a clear idea of how Romans fought, and in particular the odd interaction of politics and military science in Rome; he took advantage of the consuls' violation of **uniformity of command** to set a trap.

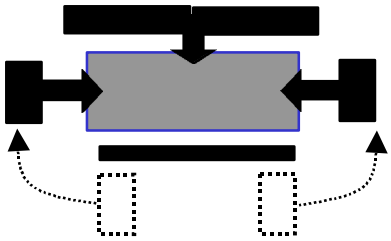
The Roman infantry was much stronger than Hannibal's, but the Roman allied cavalry was weaker. Hannibal enticed Varro to attack his center, while the powerful Carthaginian heavy cavalry (with elephants) scattered the light Roman flank guards. The cavalry then swung around to attack the Roman rear, while heavy infantry reserves on the flanks sealed the trap. Of 85,000 Roman and allied troops, about 10,000 escaped (including Varro, who later came to regret surviving). The historian Livy tells us that every family in Rome mourned a son.



1. Initial dispositions. Hannibal's army is weak in infantry, strong in cavalry.



2. Carthaginian heavy cavalry drives Roman cavalry from the field.



3. Carthaginian cavalry swings back to attack the Roman rear, reserves seal the trap. *Every family in Rome was in mourning.*

Despite three resounding victories, all Hannibal had managed to accomplish was to make Rome mad; by 202 B.C.E., Carthaginian power was a memory; soon after, the very site of the city was razed to the ground and salt sown in its fields. But for this one battle, Hannibal is remembered as one of the great captains of history. Long after, a German general wrote a book on battles of annihilation in which he prefigured his plan for overwhelming France by a double envelopment. The General was Graf von Schlieffen; his book was *Cannæ*. (History's other "perfect" double-envelopment was at Cowpens.)

Interestingly, this general battle plan was developed independently by iShaka, the founder of the Zulu Empire, and, when combined with a thorough training regimen and a nation in arms, was used with devastating success. iShaka was a profoundly bad man in most ways, but was also a natural military genius. I like to compare him to Bedford Forrest, if only because it would annoy them both.

exploitation That rarest of tactical moves, the practice of moving swiftly to take advantage of a beaten enemy. Few military leaders have the knack. McClellan, Bragg, and Meade certainly didn't; Forrest, Patton, and Genghis Khan were masters of **exploitation**.

fall line A line traced inland from a continental coast line from river to river, and connecting the points at which the rivers cease to be affected by tidal influences (these points are often marked by falls or rapids, hence the name). Downstream from the fall line to the river mouths is the **tidewater**; upstream from the fall line to the mountains is the **piedmont**. This geographical range is clearly represented in Maryland, Virginia, and North Carolina, and affected the course of the war.

feint (pronounced "faint") A deliberate maneuver designed to give the illusion of a main attack, but in fact intended to confuse the enemy. Example: it was Lee's intent to coordinate Longstreet's assault on 3 July with a **feint** by Ewell to draw off troops from the center. It didn't work because (1) Meade enjoyed **interior lines**, and (2) Ewell's attack misfired.

field of fire An unobstructed area of observation and open terrain to the front of a position that allows for unrestricted direction of fire. Usually stated as "observation and fields of fire." *Example:* because of the dense vegetation, batteries were obliged to hack **fields of fire** by hand.

fix To immobilize an enemy, usually by close engagement, preventing maneuver. (Modern admonition: "Find 'em, fix 'em, finish 'em!")

file Besides its meaning in elementary tactics ("rank and file"), a file is a tactical formation for small units on special combat missions such as reconnaissances in which soldiers travel in a single line, one behind the other ("single file" or "Indian fashion"). This formation is often used at night, when low visibility makes normal open-order skirmish formations impractical.

flanker A detachment used to guard the flanks of a moving force.

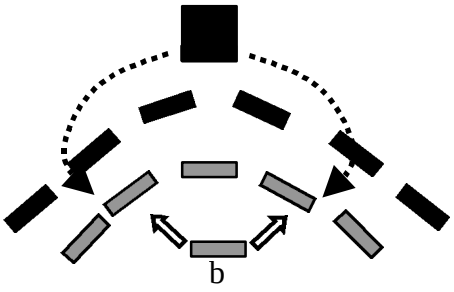
fosse A ditch used for entrenchment; from Latin *fossa* (cf *fossil*, something dug up). (See **parapet**.)

gap A pass or trafficable break in an otherwise impassable mountain or ridgeline that allows **debouchment** of troops. *Examples:* Thorofare Gap (Second Bull Run campaign), Fox's Gap (Antietam campaign), Cashtown Gap (Gettysburg campaign).

grand-guard The second line of the advanced-posts, from which out-posts are detached. Grand-guards are posted along likely enemy avenues of approach, and provide a point for out-posts withdrawing under enemy pressure to rally.

"Grant's captain" General Grant was all too aware of a commander's tendency to phrase orders carelessly, as well as of subordinates' creativity in misunderstanding seemingly clear instructions. As a hedge against miscommunication, he supposedly kept on his staff a junior officer of limited intellect. If this officer could read an action order and explain it clearly, the message was considered fit for subordinate commanders.

interior lines, **principle of** This is the practice of occupying a position, tactically or strategically, that allows easy movement to any point on the front, while denying communication and support across the enemy's front. Frederick the Great was able to defeat combined armies of his enemies by adroit use of this principle; Hitler attempted to duplicate the feat, but made so many enemies they just yelled "interior lines *this*!" and hammered through. *Example:* The Union position at Gettysburg, because of its convex shape, allowed the Federal commander to shift forces easily from point to point, while Lee was obliged to send divisions marching long distances (along *exterior lines*). Meade enjoyed the luxury of *interior lines*.



Interior lines: Black attacking force (a) must move a long distance to reach an attack position, while the Gray reserve (b), using interior lines, can move to block in a very short distance.

hachure A shading line used on maps to show **topographical** variation; largely replaced by contour lines on modern topographic maps, but universally used by cartographers in the Civil War. Often misspelled *hatchure*. (See Appendix A.)

hill A **topographical** prominence or rise in the height of ground, usually surrounded on all sides by lower ground. (See Appendix A.)

holding action An **economy of force** mission, in which a small detachment serves to delay the enemy's maneuver on one part of the field while a stronger force deals a decisive blow elsewhere.

key point A location or feature deemed by a military analysis to be critical to tactical operations, such as a bridge, road junction, sunken road, or ford. (See Appendix A.)

key terrain A **topographical** feature that dominates a section of the battlefield or otherwise influences battle plans; the "good ground." (See Appendix A.)

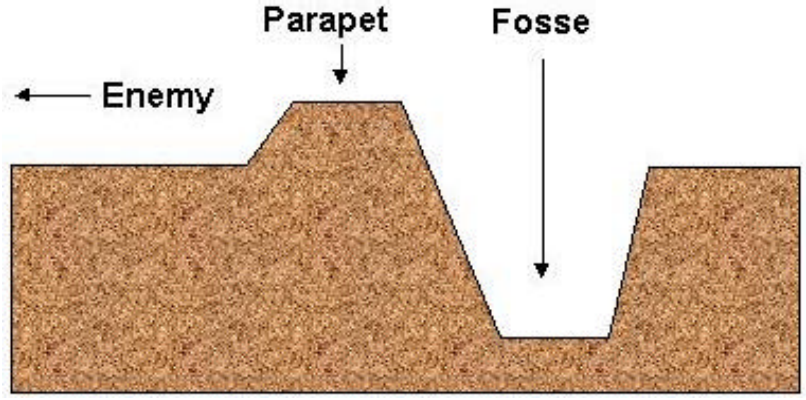
line order A battle formation, usually in two lines, arranged to maximize firepower; from French *ordre mince*. See **column order**.

Macadam An early variety of paved road, similar to blacktop, invented by a Scots (naturally) engineer. It wasn't exactly the Interstate, but was far superior to dirt or **corduroy**.

out-post the outer extremity of the advanced-posts, comprising the sentinels and the small bodies of men that provide them.

parallel axes Napoleon, a master at moving large armies with little provision for supply, generally had his corps move along parallel routes. Sometimes the columns were not in quick communication; hence the order to "march to the sound of the guns" – that is, converge on the critical point. This practice (also used in the Civil War) kept the main force from being attacked while strung out along a road, with the only support directly to the rear.

parapet A low barrier, usually of earth or wood, on the side of works facing the enemy, designed to give cover to riflemen.



patrol, defensive A patrol conducted to guard the spaces between sentinels and to provide active security for enemy avenues of approach not easily brought under observation of out-posts. Defensive patrols are usually conducted at night.

patrol, offensive A patrol conducted for the purpose of gaining information about the enemy; a reconnaissance patrol.

picket The interior line of the advanced-posts, placed to cover possible enemy avenues of approach.

piedmont That area of terrain from the **fall line** to the first range of mountains. Most of the war in the east was fought in the Maryland and Virginia piedmont, because the terrain is relatively unbroken by high mountains and ridges, and the rivers are generally easily fordable.

pincers A maneuver executed to surround an enemy by means of a double **envelopment**. (See also **salient.**)

Principles of War Assumed primary rules which, when properly applied, will lead to victory in war. The list shown here is drawn from Clausewitz, and is more current than the Civil War; however, these rules were well known and understood at the time. Interested students of the military art may commit this happy list to memory using the mnemonic MOSSMOUSE.

Mass: bringing maximum force to bear on the critical point.

Objective: Choosing a good goal for your battle plan and sticking to it.

Simplicity: Avoiding the temptation to spin a fancier than your subordinates can execute.

Security: Avoiding surprises.

Maneuver: Getting there firstest with the most men.

Offensive: Fighting to win, not avoiding defeat.

Uniformity of command: You're in charge; everybody else shut up.

Surprise: Upsetting the enemy's expectations and plans.

Economy of force: Husbanding your force for the main effort by using smaller forces to conduct other missions.

rear-guard A detachment of troops detailed to guard the rear of a moving column. The rear-guard is generally for security during a forward movement, but concerned with delaying pursuit for a main body in retreat.

reconnaissance An operation or action designed to gain information about the ground and/or the enemy; the act of scouting or gathering intelligence.

reconnaissance in force A reconnaissance mission undertaken by a large formation (e.g., a cavalry division) rather than by a stealthy patrol or a scout.

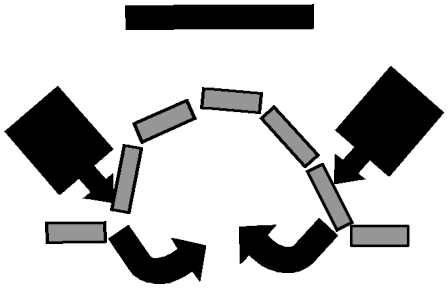
reconnoiter (vt) To conduct a reconnaissance; to scout.

reverse slope The side of a hill, ridge, or other topographical eminence away from the enemy, providing cover and concealment for those who occupy it. The forward slope contains the **military crest**. (See chapter on out-posts.)

ridge A high point or topographical eminence more elongate than a hill. It is the observer's call when a hill becomes a ridge. Generally if it looks like a hill, it's a hill; if it looks like a ridge, it's a ridge.

saddle (topographic) A line of high ground connecting two higher eminences. (See Appendix A.)

salient A bulge or extremity projecting from a defensive line towards the enemy from an otherwise straight position. The Muleshoe at Spotsylvania was a salient.



Salient: The Gray force has allowed a bulge, or **salient** to dominate its position. This salient is vulnerable to attack by a **pincers**; however, it is also served by **interior lines**.

sentinel An individual soldier detailed to observe a section of the area in front of an outpost line.

shoulder When a defensive line of works is penetrated by an enemy assault, the points to each side of the axis of penetration are called the **shoulders**. It is a common and prudent idea to reinforce the shoulders, with an eye to closing the gap and leaving the enemy's advanced units cut off. *Example:* General Mahone's soldiers dug in at the shoulders of the gap created by the crater at Petersburg.

span of control The number of subordinates a military leader can efficiently control. *Example:* At Gettysburg, Lee had three principal subordinates (Longstreet, Ewell, Hill). Meade had to contend with Reynolds (Newton), Hancock, Sickles, Sykes, Sedgwick, Howard, and Slocum, plus Pleasanton. Since Meade was new to command, and had no leadership experience with all those corps commanders, he tended to be conservative, crouch passively, enjoying interior lines. Lee had only three (plus Stuart), men he knew well; it made him aggressive. Hence, the

usual advantage of favorable span of control foiled Lee, but an unfavorable span forced Meade into exactly the right battle plan.

spur (topographic) A branch of high ground projecting narrowly from a ridge or other topographical eminence. Spurs often form the borders or shoulders of a **draw**. (See Appendix A.)

strategy The application of principles of war to maneuver that brings about the outcome of a war; the setting in which grand-tactics are practiced at the level of individual battles. How to win a war, as opposed to how to win a battle.

strategy, grand Overall strategy for a major armed conflict, including political, economic, and military consequences. General Scott's "Anaconda Plan" is an example of grand strategy.

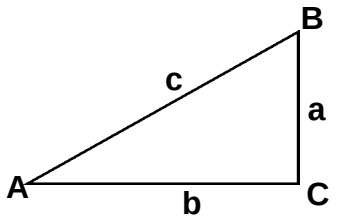
stream, intermittent A flowing body of water, more narrow and shallow than a river, which is seasonally dry.

stream, permanent A stream that is constantly watered, unlike an **intermittent stream**.

tactics, elementary The fundamental rules of drill and movement on the parade ground and on the battlefield; the basic tactics described by Casey, Hardee, and others. Elementary tactics will get the troops into position to fight; what those movements and positions are will be guided by the principles of grand tactics.

tactics, grand The rules for *fighting a battle*; how to assess and use terrain and obstacles, cover and concealment, observation and fields of fire, and maneuvers in the face of the enemy.

tangent A trigonometric function described by the length of the side of a right triangle opposite the base angle divided by the side opposite the hypotenuse. The tangent (abbrev. *tan*) has a million and one uses; no life is complete without a nodding acquaintance with the tangent. (See Appendix B.)



The **tangent.** Given: triangle ABC, with opposite sides a, b, and c. The tangent of angle BAC (that is, the angle at vertex A) is a ÷ b.

Using a protractor and range finder (see Appendix B), a reconnoitering officer can estimate the height (or the difference in height from his position) of a hill by estimating the distance to the crest and measuring the angle of sight from level (use a field-expedient plumb bob). This provides angle *BAC* and side *b* (actually, you will argue, side *c*; however, unless you're at the

foot of Everest it won't make any difference; if you want to use the sine of *BAC* [*sin a = a/c*], go ahead). Since you want to find the height, you solve for *a*. Since

tan a = a/b

and you know angle a from direct measure, you can find tan a by taking the arctangent (the angle corresponding to a tangent value) and by substitution calculate

a = tan a/b

or, since you are unlikely to have a book of trig tables handy, just record the angle and the distance and let the Division Engineer worry about it.

tidewater That geographic area of a continental coast from the **fall line** to the river mouths and the sea. This area was not heavily fought over during the war because the river lines (e.g., Susquehanna, Potomac, Rappahannock, Rapidan, Chickahominy, James) are not generally fordable in the tidewater. (See Appendix A.)

topographic Of or pertaining to the measure and mapping of land forms. A topographic map shows changes in the height and nature of the ground, by hachure or shading in the Civil War era, and by contour lines derived from precise survey or photogrammetry in the present day.

trafficability A critical feature of a point on the battlefield determined by the ease of movement of infantry, artillery, wagons, etc. Very rocky or marshy or steeply sloped ground, for example, is not easily traversed by military forces. Trafficability is a major question for a reconnoitering officer.

trigonometric function Any of a number of mathematical functions used for a variety of purposes. For the military cartographer or for the reconnoitering officer estimating range or making a sketch map, a working knowledge of simple plane trigonometric functions is essential. The functions include tangent, cotangent, sine, cosine, secant, and cosecant. Of these, the **tangent** is by far the most commonly used. See Appendix B.

valley A broad, low area, usually drained by a river or river system, and bounded by higher ground. The flat flood plain of the Shenandoah Valley is drained by the twin forks of the Shenandoah River and bordered on either side by the Eastern Blue Ridge and the Alleghenies. (See Appendix A.)

vedette A forward element of cavalry fulfilling the same general function as the infantry outpost. Vedettes are generally placed to observe enemy activity rather than to engage in combat.